

**THE SPORT
IN RUSSIA**

**BMW 750
TEST**

**TESTING THE
BSA 500'S**

**OSSA
PLONKER
TEST**

**ASCOT
OPENER**

**BUILD A
YAMAHA /
TRACKMASTER**

**KAWASAKI
CONVERSION**

**CHAIN
FACTS**

**THE
MINT
400**





Wild thing.

Baja. A long-legged beast that eats up the country...that chews up the big-bores and spits them out along the trail. No one ever sold it short more than once. AMF | Harley-Davidson, Milwaukee, Wis.

Baja 100.  **another outperformer from Harley-Davidson.**

MODERN CYCLE

VOL. 8, NO. 7 JULY, 1972

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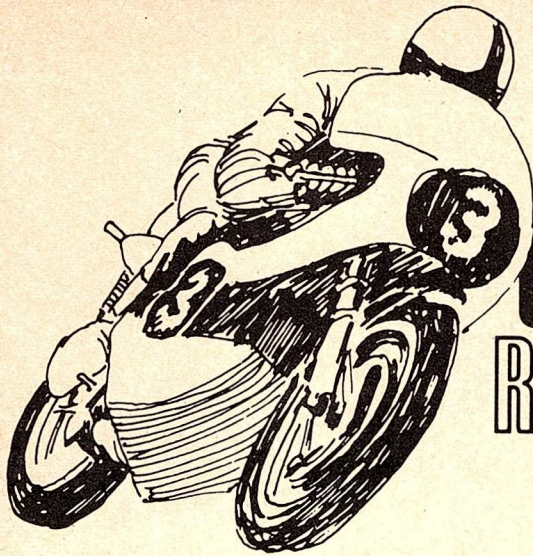
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THE European RACING GAME

It is now certain that Norton will be contesting all the big 750 Formula International races now that their production efforts are producing the Nortons for a ready market. It is hoped that with these production limitations removed, the parent Norton-Villiers factories will be able to concentrate some effort on its AJS moto cross market. At the time of writing 1972 AJS production and sales is limited to the 410cc model with no news of a '72 version of the 250 Y40 Stormer. The factory answer is that all efforts were concentrated on getting the money-making Norton in full production after which the AJS would receive the "treatment." So far this season the opposition has been handed the market on a plate.

The other all-British moto cross manufacturer, Greeves, as always, is too late in getting its new models into the hands of its buyers. The British season started around Easter—yet the new 380 Q.U.B. Griffon was half promised for mid-April—resulting in cancelled orders and switch to other makes such as Husky, CZ, Maico, etc. Delay is given as non-arrival of the Spanish Telesco front forks . . . the factory claim these as the best fork on the market to which users will say that if they are better than the formerly used Ceriani then they are some fork.

Promises broken or excuses for non-arrival are not only related to U.K. machinery. The much heralded Ossa 250 Trials iron arrived mid-way through the winter trials season, but there was enough waiting buyers to absorb the first deliveries. So on the trials courses the

Spanish domination continues with Bultaco, Ossa, and Montesa. The main complaints levelled against all three is the poor quality frame tubing employed—no doubt due to the lack of high quality tubing in Spain. That manipulator of exotic frames, Eric Cheney, soon was on the market with a lighter and stronger frame for the Montesa Cota. It was not without reason that Mick Andrews, the Ossa Number One at a U.S. trials school demonstration, gave his candid comment to the effect that the Ossa frame employed similar gas piping tube to that used by rival Spanish makers. Officials from the Montesa factory including Pedro Pi, their works rider, visited the Birmingham factory of Reynolds tubes and there could have been only one reason for this.

Also, a visit was made to the huge "Homerlite" gas tank factory to see the alloy tanks already in production for Montesas and other makes to the order of main agents and distributors. So knowing that as from 1st August 1972 British legislation forbids the use of fiberglass for tanks . . . most makers are seeking supplies. Riders have found advantages in alloy. A fiberglass tank that is involved in a crash often results in a holed tank whereas alloy usually dents on impact. Against steel a big weight savings is notable for comparison with the 1972 Husky 400cc steel tank weight of 8¼ pounds against the 3¼ of the alloy. Cost of a replacement alloy tank is no more, and often less, than the original. Alloy tanks already in production are for Husky, Montesa, Bultaco, CZ, Maico, and Cotton with Ya-

maha. Greeves and AJS are to follow.

Talking equipment, it seems that Dunlop had anticipated the Daytona requirements in tire wear with a 1, 2, 3, 4 placing—the intention being to return to domination on the race tracks as in former years. It is within memory in the 1950s—the years of Norton and Dunlop 1, 2, 3 placings—that the biggest upset came to the Dunlop monopoly. In the German GP, the then fastest course in existence, at the ultra-high speeds being obtained, shedding of tire treads caused wholesale factory rider retirements and the solution was soon handed out by the smaller little-known Avon firm. The result was that the official Norton racing team switched to Avon, which made huge inroads into Dunlop racing tire supplies. (Supplies is the operative word as opposed to sales.) Because of cost, Avon eventually pulled out of race support.

Maico moto cross works riders Adolf Weil and Ake Jonsson were using titanium frames in their early 1972 races which brought the all in weight down to the 200-pound mark—which is some going for a full blown 500cc class bike. First users of this material were the works BSA riders, but the welding of this costly material is not for the local welding shop and later use was confined to the more popular Reynolds 531 tubing.

Jeff Smith, for so many years the BSA Number One and former World Moto Cross Champion, is now fully settled in Canada with the Bombardier snowmobile firm where his undoubted skills are to be employed in the development of two-wheeled transport. He made a short return visit to his homeland in early March to settle his affairs and organize the moving of his family to Canada. He will be greatly missed on the European moto cross circuits where he always commanded respect and a large following. There is no sign that BSA intends to return to the world of moto cross, but the BSA/Triumph management are concentrating all efforts on the big-selling 750's with the U.S. market as Number One priority.

The 1973 International Six Days Trial will be held in Texas—this will be in an Army base with no

road going. The site is Fort Hood with a 350 square-mile area and backed by U.S. Army facilities which lists: Food and accommodations, services of any necessary interpreters, medical services backed up with helicopters, hoards of Army personnel to marshal the course, and all publicity—press, T.V., etc.—will be Army controlled. If the preliminary sketch plans turn into reality then the 1973 ISDT should be the greatest ever of the series. Whilst the cost of transport of men and machines from the main contestant countries in Europe may seem formidable, the use of charter facilities will bring the cost within reason. The U.S. ISDT will give a great boost to this branch of the sport in the promoters country and the prestige gained by winning makes will be enormous. And if manufacturers have any foresight then they should already be signing up top U.S. talent for their teams. At the same location—Fort Hood—it is intended to run a pilot three-day trial to test the organization at which selected European riders will be invited to get an insight on conditions to report back to the national organizations. This is a very worthy notion. From an onlooker's angle, the allocation to the U.S. of the ISDT will further enhance the efforts of bringing the U.S. into the existing large family of motorcycle nations.

Bultaco, missing out on the 500 moto cross class, have on test their new Conquistador 397cc which employs a dry clutch, gear primary drive, and right hand side crankshaft centered kickstarter which involves a forward operation. Output is given as 40 bhp at 6,500 rpm. Works rider Malcolm Davis and supported Arthur Browning and Vic Allan have been to Spain testing the newcomer. When the engine department is settled a new frame will be designed for the production.

For Sidehack moto cross racing there is only one outfit to use, and this Wasp creation has been fitted with an enormous variety of power plants ranging from the various Triumph capacities through BSA in variety, and now several enthusiasts have moved into the two-stroke engine market. Nicely suited, it seems, for the American

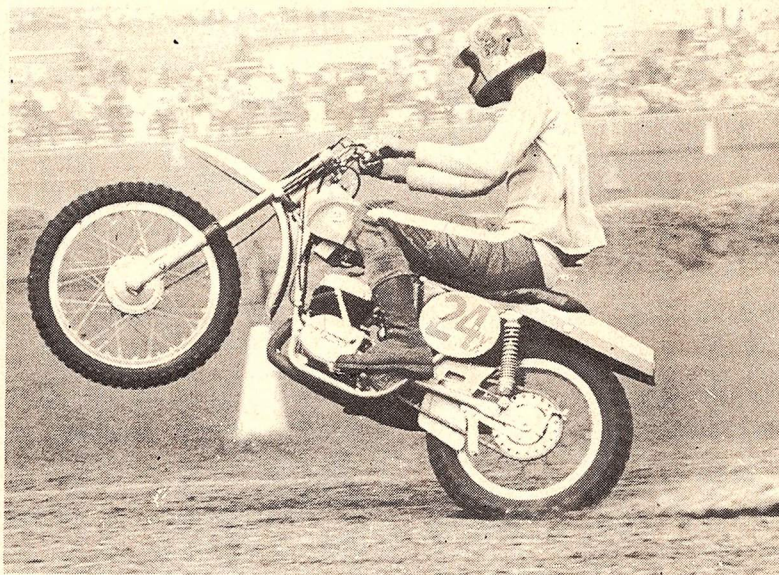
desert scene is the Wasp outfit with a Husqvarna 5-speed 454cc motor strung together by John Elliott. Its first outing gave a shock to the users of the usual Triumph-powered 3-wheelers who acknowledged that the overall reduction in weight and the power now available from the big strokers could soon force a rethink amongst bike builders. No manufacturer is anyway involved in sidecar racing or moto cross and all development over many years has been the work of riders and the small specialist firms. A good example is the front forks which at a cursory glance remind one of the so efficient Greeves leading link fork, but on

close inspection the geometry is peculiar to the needs and much strengthening to obviate side whip has taken place.

From the factories we hear: Honda 250cc two-stroke moto cross bikes are ready for public view but not sale until a year's works testing. Montesa will introduce a new 125cc trials job—no doubt the growing schoolboy market being the attraction. Greeves is works rider testing a 250 MX fitted with reed valve induction—first time outing gave two 2nd placings. Bultaco are developing their 325cc version of the Sherpa Trials. Cotton's new Minarelli-en-

(Text continued on page 34)

October 24, 1971--Gary Bailey's Bultaco failed to finish. That was the only time!



AT MEMPHIS, TENNESSEE, ON OCTOBER 24TH, 1971, GARY BAILEY'S BULTACO STOPPED WITH ENGINE TROUBLE. BUT THAT WAS THE ONE AND ONLY TIME IN 64 STARTS DURING LAST SEASON! THE REST OF THE YEAR SAW THE BAILEY/BULTACO COMBINATION TAKE 43 FIRST PLACES, 11 SECONDS AND 9 OTHER TOP-SIX PLACINGS! ALONG THE WAY HE CAPTURED THE 250CC CLASS TITLE IN THE AMA SPRING PROFESSIONAL MOTO-CROSS SERIES. WRITE TO BULTACO SERVICES, PO BOX 433, SILVERADO, CALIFORNIA 92676 FOR MORE DETAILS OF BULTACO'S COMPETITION-PROVEN RANGE.



A BLAST FROM THE PUBLISHER

ISDT SITE

It was recently announced that Fort Hood, Texas, has been chosen as the site for the 1973 International Six Days Trial, an event regarded by many as the Olympics of off-road motorcycles. Since 1913 the ISDT has been hosted by various European countries; 1973 marks the first year that the event has been held outside of the continent of Europe.

For those who don't know, the ISDT is a motorcycle endurance event in which national teams compete over difficult terrain, covering approximately 200 miles per day for six consecutive days. In recent years the event has been dominated by teams from East Germany and Czechoslovakia, though the U.S. team made its best showing to date in 1971 when the event was hosted by England on the Isle of Man.

This year the Trial goes into communist territory where approximately twenty nations will compete in the difficult Tatra mountains of Czechoslovakia.

Regarding the approaching 1973 event Russ March, executive director of the American Motorcycle Association, stated, "This is both an honor and a great responsibility we have facing us, and I am pleased that the Department of the Army has shown such cooperation by allowing the AMA to use Fort Hood as the location for this event."

Fort Hood, located near Temple, Texas, includes more than 350 square miles of the unusually difficult terrain necessary for a good International Trial event. In addition, the military installation and its surrounding communities provides ample living accommodations for the more than 1,000 European competitors and support crews that will be arriving for this, one of the great Amateur sporting events.

MORE FROM BIG BROTHER

Reprinted here, in its entirety, is a press release which recently crossed my desk.

WASHINGTON, D.C. — Four million motorcycle riders will soon join the nation's automobile drivers with their own set of federal safety standards. Although auto safety currently holds the news spotlight, the government is also hard at work investigating a variety of ways to improve the operation, crash protection and handling of the two-wheelers.

Under a contract awarded by the National Highway Traffic Safety Administration, a leading independent laboratory has offered several motorcycles for federal evaluation. The alterations, performed for the government by General Testing Laboratories, changed conventional machines to conform to experimental control, vision, and lighting systems.

Examples of equipment under development at the General Testing Laboratories in Washington include a combination turn signal and running light system, three different types of rearview mirrors, and higher-intensity headlight systems. General Testing Laboratories is also conducting human engineering studies to determine the safest location for all operating controls.

Results of these tests will be part of the basis for a new set of motorcycle standards which the government has scheduled for early 1973. The impact of these standards on the world's 25 motorcycle manufacturers is likely to parallel the impact that the first round of safety standards had on the auto industry five years ago.

I await with a great degree of concern the appearance of the motorcycle that the so-called "experts" at General Testing Laboratories develop. Someone once said that the camel is really a horse

which was designed by a committee. I hope that the motorcycle emerges from General Testing Laboratories in some form which we can recognize.

NEW M.I.C. PRESIDENT

I'm pleased to announce that my old friend Tom Heininger was elected president of the Motorcycle Industry Council at the M.I.C.'s third annual meeting held this past March. The Council is a Washington-based trade association that represents 96 percent of the motorcycle manufacturers and distributors as well as allied trade, and also 1,800 dealer members.

Tom is president of Webco, Inc., a West Coast distributor of motorcycle accessories and high performance equipment. He has been affiliated with that firm for 18 years.

In an interview, Heininger stated, "This is a year of decisions for the motorcycle industry. The unified effort of all manufacturers, distributors, and dealers is a great necessity. It is extremely important that we all work together for the attainment of our industry goal."

He added, "Communications are also of primary importance. We must tell our story now! We must make the country's thought leaders aware of our existence and our position."

MORE ON NOISE

Any motorcyclist with any degree of brains realizes that noise is one of the major problems affecting our sport. Newspapers all over the country carry reports about outraged property owners complaining to police and other authorities about the noise created by unmuffled motorcycles or bikes with modified exhaust systems. The authorities do the only thing they can: They pass laws and ordi-

(Please turn page)

Why you should start with JAWA-CZ.



Why wait?

You can buy the same CZ Joel Robert rode to five world motocross championships.

Or the same Jawa that won the International Six-Day Trails seven times.

So often a beginner starts out with a popular little 90cc, then in six months trades up to a 175cc of another make. Finally, when he really gets serious about riding, he gets a JAWA-CZ.

Get the JAWA-CZ first. And don't let our trophies scare you. We don't build bikes just for experts.

One cycle magazine said about our 250 motocross: "The qualities that make it a world champion in the hands of Robert and Friedrichs also allow the sportsman rider an extra margin for error and recovery."

We're proud of our 250. And of our 125 and 400. But we're not just a motocross company.

If you like trails, we have a tough little Jawa 90, and a CZ 175. For the street, everything from a 50cc up to 350cc. Our 250 and 350 street models, by the way, come with very racey sidecars. And of course our super 500cc speedway bike.

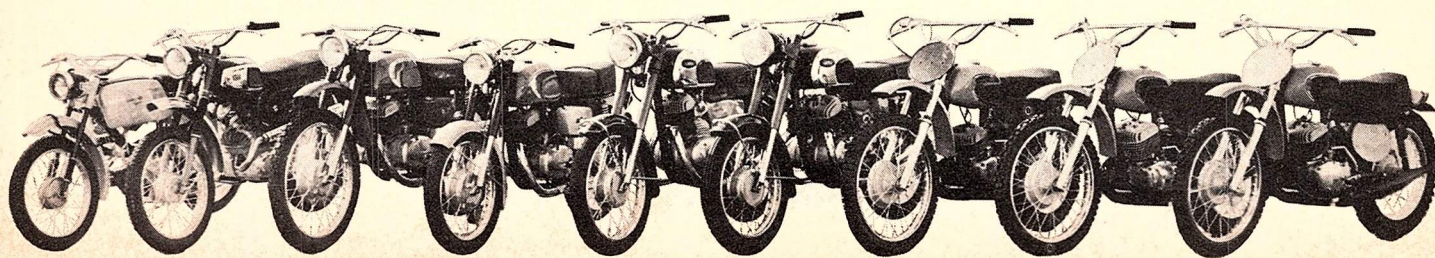
We even have boots, leathers, gloves, jerseys . . . a full line of accessories. Plus overnight parts service from key distribution centers.

Visit one of our showrooms (there are 379 in the U.S., 50 in Canada). Or write for more information.

Why not start with the best?

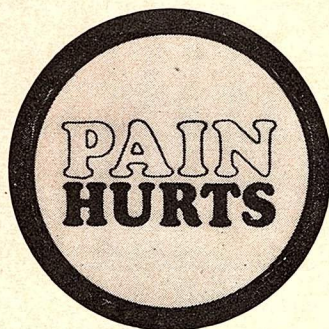
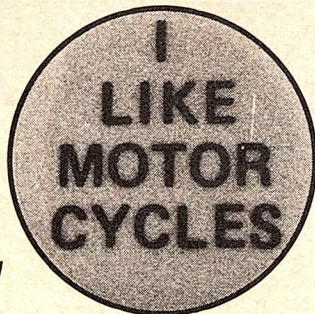
JAWA-CZ

AMERICAN JAWA, LTD.
WEST: 3745 Overland Ave., Los Angeles, Ca. 90034, MC772
EAST: 185 Express St., Plainview, Long Island, N.Y. 11803
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7600 Trans-Canada Hwy., Montreal 377 Ca.

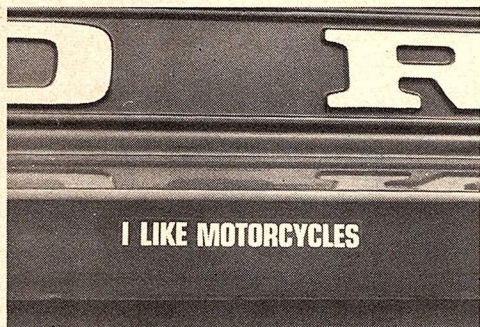


NEW! FROM GROWCO

1005 I LIKE MOTORCYCLES. Here's the button that will put the finishing touch to that favorite hat or jacket. These large 1 1/4 inch pins are white with brilliant red type and sell for: 2 for \$1.00; 5 for \$2.00.



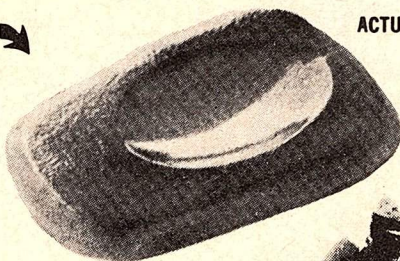
1010 PAIN HURTS. The button that is guaranteed to bring a chuckle from anyone who sees it—especially those who have gone through an unpleasant experience such as failing to see that two foot ditch while roaring through the desert at 50 miles an hour. OUCH! PAIN HURTS!! These large 1 1/4 inch buttons are yellow with black print and make a great gag gift. 2 for \$1.00, 5 for \$2.00.



1009 I LIKE MOTORCYCLES. These stickers are just the thing to dress up the rear window and bumper of your car, truck, etc.

NOT DECALS! , decals are difficult to put on and they also chip and peel in a short period of time. Our stickers are self-adhesive clear vinyl with durable white type—just peel off the backing and apply to any clean surface. These stickers are sold in a set of two; One for mounting on a bumper or outside surface, and the other is printed in reverse for mounting on the inside of a car window. \$1.00 per set of two.

1006 WORRY STONE. Trying to quit smoking? Tension getting you down? Bitten off all of your fingernails? Well here's a better way, try this ancient Indian method of relieving tension—just rub the stone with your thumb and be amazed at the calming effect it brings. Stones are hand carved from solid onyx. \$1.00 each.



ACTUAL SIZE

Please RUSH the items I have listed below to:

Name

Address

City

State Zip



STOCK NO.	QUANTITY	TITLE OR DESCRIPTION	PRICE

TOTAL AMOUNT ENCLOSED \$

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CANOGA PARK, CALIFORNIA 91304



continued

A BLAST

nances forbidding the use of motorcycles in the areas under their jurisdiction. I receive letters daily from riders who complain that their favorite riding areas have been closed to them because of complaints made by people who live close to the "playground." Ironically enough, many of these riders admit that their machines are unmuffled or fitted with expansion chambers. These people can't seem to realize that the noise they create is their own undoing.

The once popular expansion chamber is the real culprit in the battle against noise. Few are the sanctioned organizations which allow any unmuffled machine to compete in their event. The main problem is the idiot cow trailer or woods rider who fits a chamber to his machine and then goes merrily on his way making trouble for himself and the thousands of conscientious riders who are aware of the problem created by noise. Perhaps the answer might be to make the expansion chamber unobtainable or, at least, damned hard to come by.

I am constantly amazed by the motorcycle dealers who sell expansion chambers as accessory items. Every chamber sold adds to the noise and, as the noise grows, the riding area allowed us must surely dwindle. Sooner or later the sales of motorcycles must diminish just because there will be no place in which they can be ridden. Dealers are the first people who will feel the pinch as the sale of off-road motorcycles diminishes. It seems to me that they should, in their own interest, stop selling expansion chambers.

There's a quick profit to be made from the sale of these things but just think what the ultimate cost might be!

Gordon Kannel

THE ASCOT SEASON OPENS WITH A REAL SURPRISE.

For the first time in memory, the opening event at Ascot Park in Gardena, California, was different! In past years the season opener found the pits jammed with sparkling new or refurbished racing bikes, riders garbed in new and colorful leathers and a general air of expectancies. The pits were the only place where you'd find anything new and shiny. Over the years Ascot Park has become one of the most dismal racing tracks in the country.

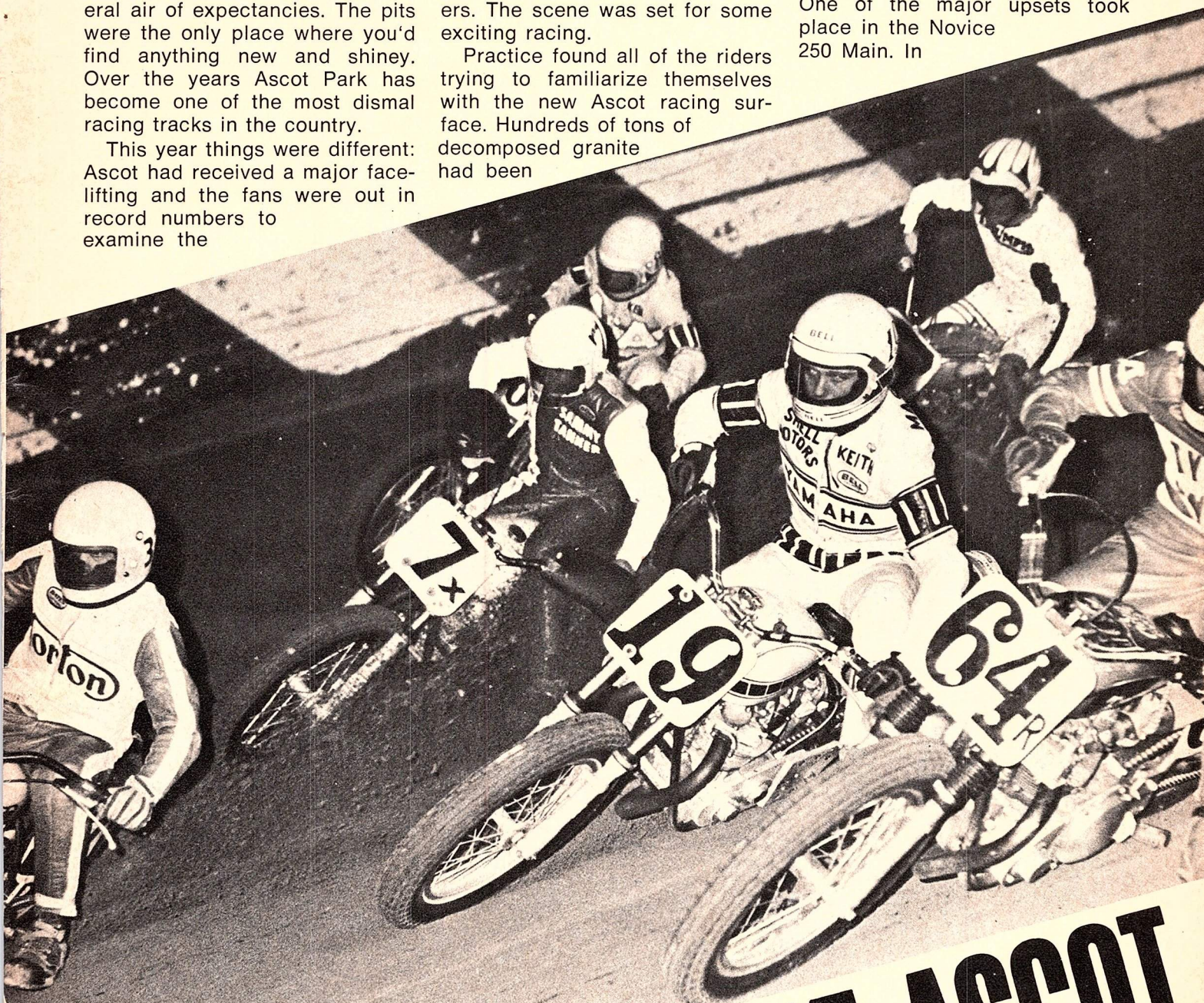
This year things were different: Ascot had received a major face-lifting and the fans were out in record numbers to examine the

"new" facilities. From the number of top caliber racers on hand in the pits it was obvious that the riders were also anxious to sample the "new" Ascot. A record turnout close to 8,000 fans were in the stands, while the pits bulged with 165 Professional riders. The scene was set for some exciting racing.

Practice found all of the riders trying to familiarize themselves with the new Ascot racing surface. Hundreds of tons of decomposed granite had been

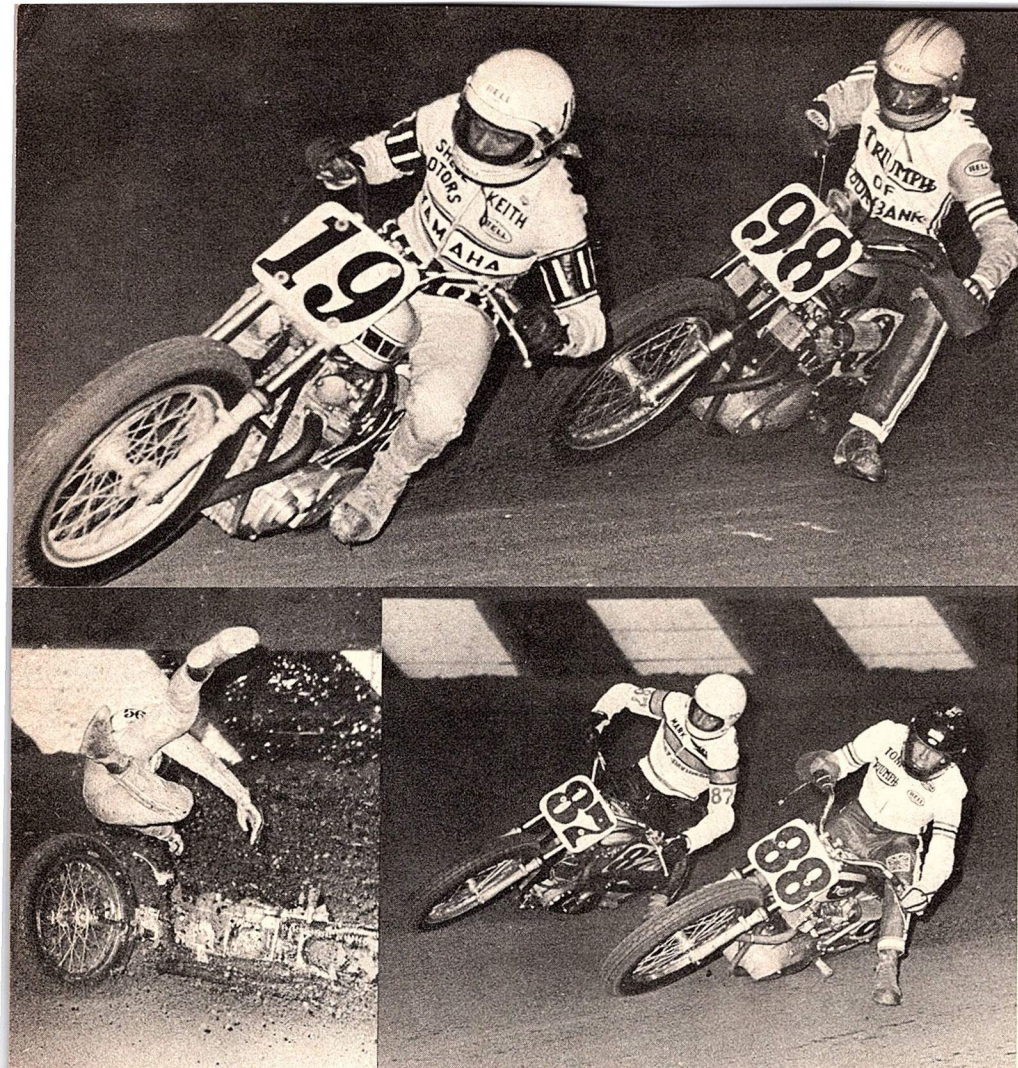
brought to re-do the surface, even the "old" Ascot pros had to learn new riding techniques. Because of the number of riders on hand practice was run off very quickly and a number of riders fell off trying to hold traction on the new racing surface.

Once racing got underway upsets were the order of the evening. One of the major upsets took place in the Novice 250 Main. In



HALF MILE AT ASCOT

Photos by Dan Mahoney



the past 15 years no out-of-state rider has been able to capture this hotly contested event. All of that changed Friday night when Scott Erickson of Montana put it on the Novices at Ascot. Apparently learning the track, Scott ran second in his seat race following second-year Novice, Guy Bailey to the checkered flag. By following Bailey Scott may have been picking up pointers as to the proper line around the oval.

At the start of the 250 Main Northern Californian, Rick Hocking squirted to the lead followed closely by Bailey. Erickson got off the line poorly and had to work his way up through traffic. By the third lap the Montanan was in third. Hocking, Bailey and Erickson held position until the fifth lap when Bailey passed to take over the lead. Two laps later Erickson passed Hocking and set his bike on Bailey. At the end of that lap the two riders were nearly shoulder to shoulder as they went into the final circuit of the course. At the wire Erickson nipped Hocking to take the win.

Erickson's performance is amazing when you consider the fact that he comes from a state which has no Professional racing. Even more amazing is the fact that Erickson pulled off the same stunt at Daytona last March when he won over 150 Eastern Novices on hand for the Daytona races.

Activities in the ranks of the Junior competitors offered more in the way of upsets. The two top Novices of 1971, Scott Brelsford and Steve Nichols, had problems all evening. Nichols could finish no better than second in his heat race, while Brelsford was extremely erratic in his heat. Fastest in the Junior time trials was Rex Barrat aboard a very potent Triumph. Al Baker, in his second year as a Junior, wasn't too quick in time trials but he made up for it in his heat race when he turned in the fastest Junior time.

The Juniors lined up for the Main and at the drop of the flag Al Baker assumed a lead he was never to relinquish. Al rode a dream race and he seemed to have the Ascot surface wired. Late

in the race he appeared to tire slightly but his commanding lead allowed him to motor home for the win. Late in the race Nichols made his move but by that time Baker's advantage was too great to overcome. Brelsford finished a distant third, followed by Gary Lozano in fourth, and Tom White in fifth.

From the number of Expert riders on hand you might have thought that the event was a National Championship race rather than just the start of the regular Ascot season. In the first heat race Dave Aldana, who had turned in the fastest qualifying time in practice, could do no better than fourth spot. Surprise winner of the heat was 16-year veteran Sammy Tanner. Second spot went to Frank Gillespie, and third spot was nailed down by Mark Williams. Action in the second Expert heat saw Keith Mashburn take his first win in a long time. Two of the hottest young stars on the National circuit this year followed Mashburn home. In second spot was Kenny Roberts followed very closely by young John Hateley.

The third heat of the evening saw Mert Lawwill, who has had some extremely good evenings at Ascot, able to do no better than third. Ahead of Mert was Mel Lacher who was led to the checkered flag by young Gary Scott. The fourth heat of the evening offered some very heavy action with Tom Rockwood, Mark Brelsford, and Gene Romero running the entire heat within one another's shadows. At the checkered flag it was Romero in front with Rockwood taking a close second after passing Brelsford on the last turn.

A hint of things to come occurred in the Trophy Dash when young Gary Scott posted a wire to wire victory. Rockwood, Aldana, and Hateley all had a shot at Scott but none could make the pass to take over first spot. At the end of the Dash it was Scott in front followed by Aldana, Rockwood, and Hateley.

The starter dropped the flag to open the Main Event and Mel Lacher dropped his machine in the first lap after a rather jolting encounter with the crash wall on the backstretch. Lacher was out and the riders lined up for a

restart. A new rule in effect this year allows an alternate rider to replace a rider who for some reason cannot compete in the Main after qualifying. In the new line-up for the restart Lawwill replaced Lacher whose machine was out of commission after the encounter with the crash wall.

At the second start Gene Romero took the lead followed by Keith Mashburn and Gary Scott. On the second lap Scott passed Mashburn and settled in behind Romero. By the ninth lap Gary

was tucked in right behind Romero and on the tenth lap they came down the straightaway side by side. On the next lap Scott took the lead only to be passed once again by the determined Romero. The lead changed hands a total of six times before the finish with Scott holding off a very hard charge by Romero. Behind the front runners a tremendous duel had taken place for third spot. Frank Gillespie, Keith Mashburn, Tom Rockwood, and Dave Aldana, had all, at one time

or another, held third spot. At the finish it was Mashburn third, Gillespie fourth, Aldana fifth, and Rockwood in sixth spot. Mark Brelsford, Kenny Roberts, Mert Lawwill, and Sammy Tanner, crossed the finish line in that order to round out the remainder of the field.

A new record crowd had poured \$4,500 into a new opening night purse. All in all it was a great night of racing and Ascot Park seems destined to enjoy many more years of success. •



letters



FROM THE TROOPS

Dear Sirs:

Help! Help! Help! I've never had the opportunity to write to a magazine before but now I seem to be up against a brick wall. I buy six

different magazines, but I value your opinion the most, so here is my problem. I weigh 110 pounds, I am 5' 5" tall, and I am 14 years old.

The problem is that I own a Yamaha Mini Enduro and I am too big for the bike. My parents just can't understand that you have to have the correct size bike to ride well in the dirt.

The bike I want to get is the Yamaha 100cc Motocross. I was wondering if you feel this bike is too big for me to handle.

Jeff Fortenbacher
St. Joseph, Michigan

Assuming that you have gained considerable experience on your Mini Enduro, and considering your weight and height, I feel that the 100cc Yamaha Motocross machine would be a fine choice.—Ed.

Dear Sirs:

I am interested in the Pyro 5 Mini Torch as presented in the "Holiday Gift Guide" section of your December, 1971 issue. If you know of a distributor in my area please send his name and address. If not, would you send me the manufacturer's name, etc., and any information you have on the unit.

Thank you very much. Keep up the good work with your magazine. Aloha.

Michael Shim
Honolulu, Hawaii

Yours is just one of many letters which we received expressing interest in the Pyro 5 Mini Torch which appeared in our "New Products" section. Unfortunately, the press release describing the Torch did not list the name of the manufacturer or distributor, it merely stated, "Available at better hardware stores." We have taken the time to check local hardware stores and have come up with negative results. Perhaps the whole thing was a figment of someone's imagination.—Ed.

Dear Sirs:

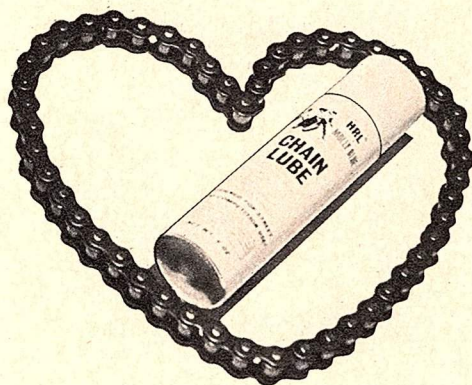
I am in great need of the Suzuki Duster "hop-up" kit #99104-07500. All the Suzuki shops are out and don't know when to expect a new shipment. Please help me if you know where I can get such a kit.

Jay Gerdes

You are not the only owner of a machine of Japanese manufacture who has had trouble obtaining parts. The recent record-breaking

(Please turn page)

HI! I'M **MOLLY BLUE**



LET'S HAVE A

LOVE AFFAIR

Molly Blue really sticks by your chain. Its deep penetrating blue foam provides the very best lubrication and protection to stop chain stretch and seizing. Let your local dealer play cupid — ask for Molly Blue — You'll love it!

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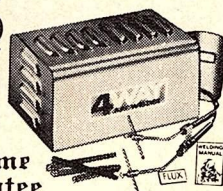
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LETTERS CONTINUED

dock strike really fouled up the supply of motorcycles and motorcycle accessories. Now that the strike has been settled your dealer should be able to obtain the parts you require.—Ed.

Dear Sirs:

I just finished reading your fine article on the Barstow-To-Vegas run. A well-written article, especially the part about Barstow's night life. Having lived here for only seven years, the only thing I look forward to around here are the motorcycle races. I try to attend the races around here in the Barstow area. Will you have an article on the California 400? That race took place a few miles south

of here, and was really exciting.

I enjoy reading your magazine. Be sure to have lots of articles on Hare and Hound desert racing.

Shelley Skaggs

Barstow, California

Thanks for your kind words on our coverage of the Barstow-To-Vegas race. You'd be amazed at the number of letters we receive from all over the country inquiring how one goes about entering this great event. It's truly a classic race.

Sorry, we missed the California 400, but rest assured that you will be seeing coverage on desert racing in the pages of Modern Cycle.—Ed.

Dear Sirs:

I enjoy *Modern Cycle* very much. This magazine has all the good articles on racing. You always have something interesting. Keep up the good articles and you won't have any trouble selling it.

The thing I want to ask is what do you think of the Yamaha 100 MX?

R. P. Morton

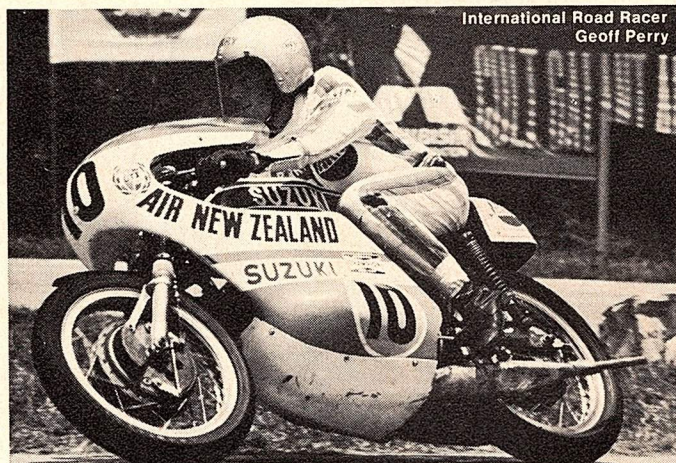
I think it's a fine bike!—Ed.

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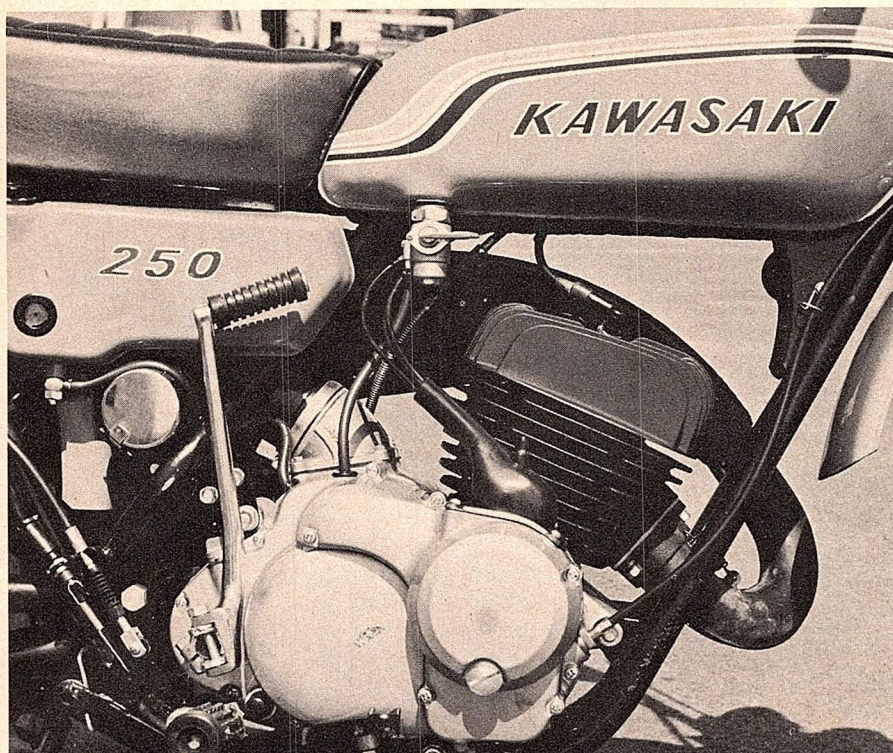


International Road Racer
Geoff Perry



KAWASAKI BLOW UP

**F8 PLUS
1 (PISTON)
EQUALS F9**



We are constantly receiving letters from curious motorcycle owners who want to increase the performance of their machines. They want to do it themselves, they don't want to spend much money, and they don't want to have to go out and buy a bunch of special tools. What they are asking for, in most cases, cannot be obtained within the limits they set up. But sometimes, and it's generally the result of much planning at the engineering level, a substantial amount of horsepower and torque can be found just by bolting on a few pieces. Case in point is the F8 series 250cc Kawasaki.

These bikes with their rotary valve inlet system are noted for their broad power band. You can't load 'em up or kill 'em and they pull strong from the bottom up. The 250cc F8 develops a modest 24.5 horsepower at 6,800 revolutions per minute. Coupled to a bike that weighs a little under 300 pounds, performance is not the greatest. However, Kawasaki's 350cc F9 which happens to be nearly the same motorcycle is a sparkling performer. It has the same broad power band with half again as much wheel spinning

power. The F9 is a bunch of fun to ride.

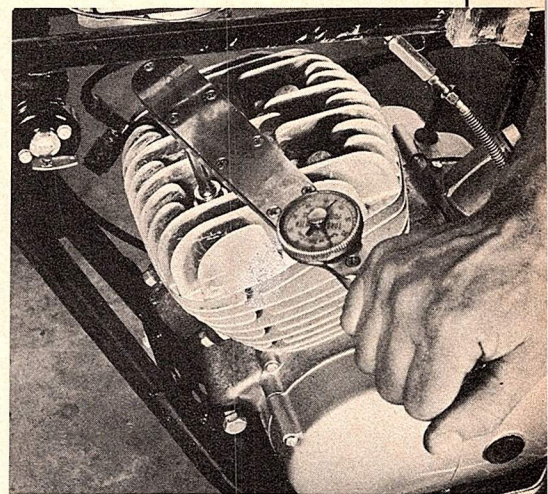
It just so happens, after a lot of investigation on our part, that the F8 converts into an F9 very easily, with few special tools, and in a short amount of time.

The 346cc F9 is said to put out 33 horsepower at 6,500 revolutions per minute, 9½ more than the 250. A capacitor discharge magneto is on the F9 while the other has the older pointed magneto. The F8 uses a 30mm carburetor while the F9 has a 32. Both machines have a 2.68-inch stroke; only the bore is different, 2.68 inches versus 3.17. That's nearly a half-inch difference in bore diameter.

We did not change the ignition system or enlarge the carburetor venturi diameter. We did obtain a F9 piston, rings, pin, cylinder, cylinder head, and various gaskets. The installation is all straight forward with no tricks shown in the following photos. Because the F9 cylinder is bigger than the F8's we had to cut ¼-inch off the exhaust pipe so it would fit on the motorcycle. We also painted the head and cylinder black for aesthetic reasons.

When you go to kick it over

you know you've made a 350, it takes a lot more push than the old 250. Our modified Kawasaki is an absolute blast to ride, especially when people read that 250 decal on the side and believe it. A word to the wise; be careful when you accelerate in first gear on the hard stuff . . . it wants to do a wheelie!

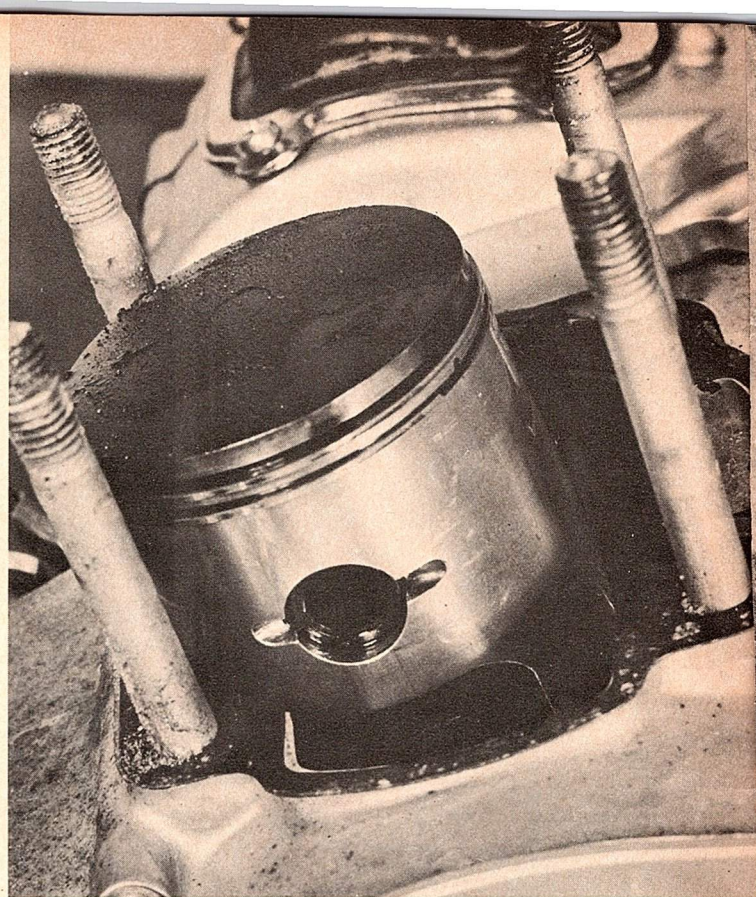


A Remove the exhaust pipe retaining springs, then unbolt the exhaust assembly.

Off comes the fuel tank and then it's time to unbolt the cylinder head.



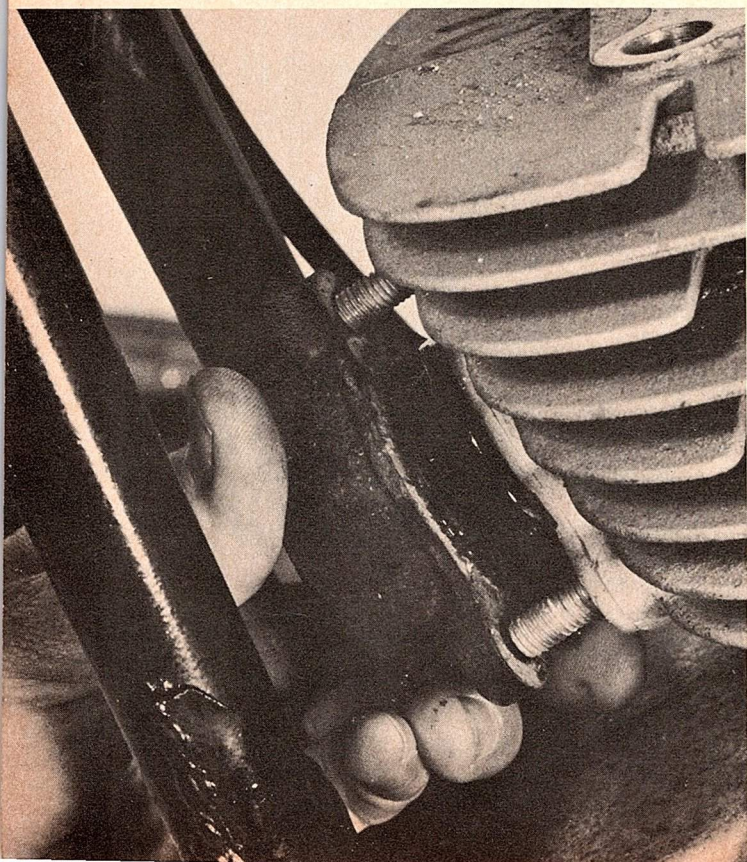
B The head lifts off, then you must grab the cylinder by both hands and pull it over the piston.



Cylinder removed and it's time to scrape away the old gasket, try to keep most of the swarf out of the crankcase.

D

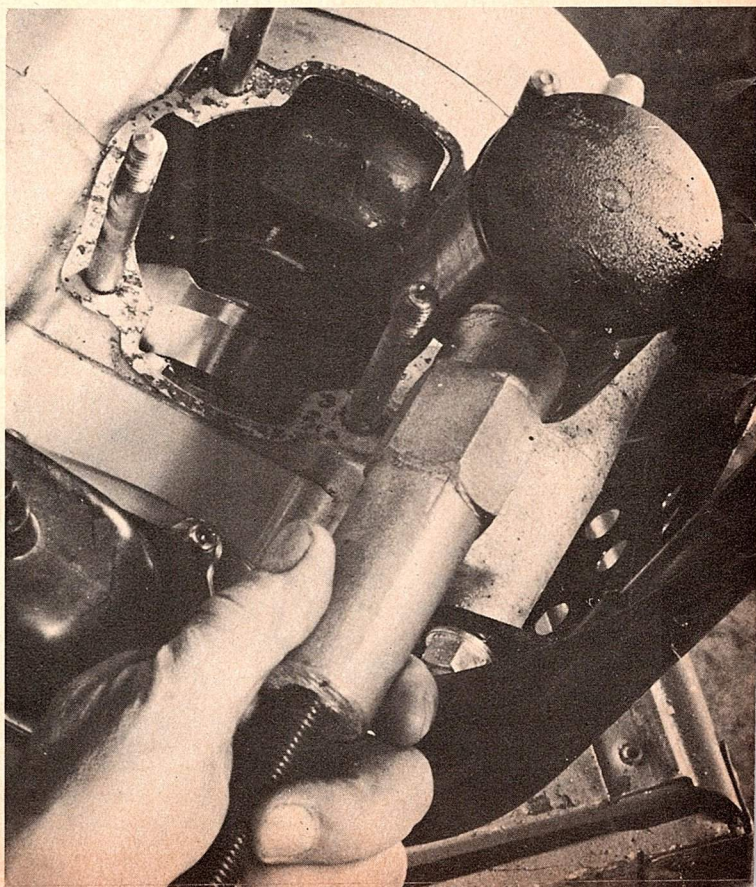
C This exhaust pipe flange bolts onto the F9 cylinder, it's easier to get to with the cylinder on the work bench.



KAWASAKI

Pull the pin keepers, then use a wrist pin extracting tool to free the piston.

E

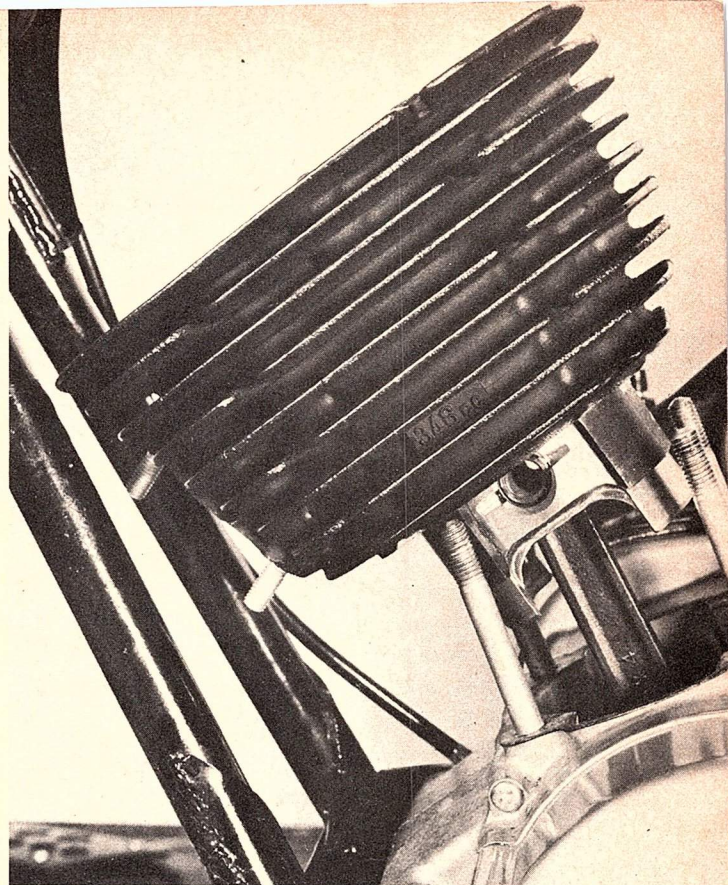




F The proper way to install your new rings on the piston is to hook the ends of the ring with your thumbnails and gently bend out until the ring clears the piston.

CONVERSION

G The old piston and the new. Arrows visible on the piston domes point to the exhaust port.

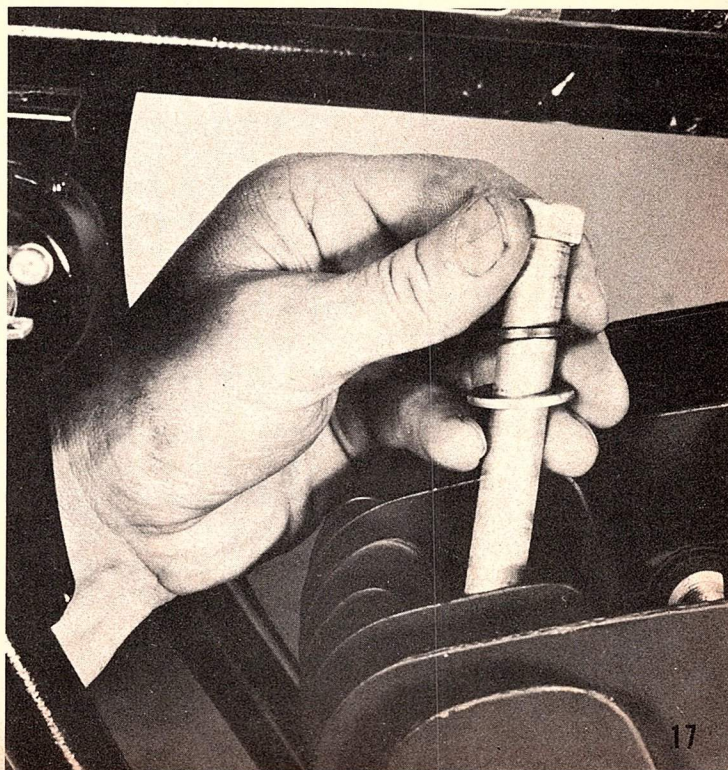


Surprisingly, the F9 piston pin is a push fit. Carefully slide the cylinder over the three piston rings making sure all are in place.

H

Each of the four through head nuts have a lock washer and a flat washer. The smaller four head bolts have washers only. The larger bolts torque to 25 ft. lbs. and the smaller ones 14. The remainder of the bike just screws together.

I

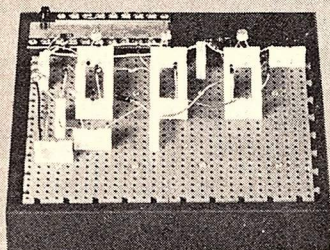
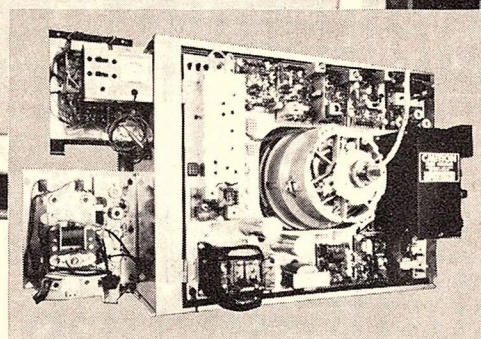


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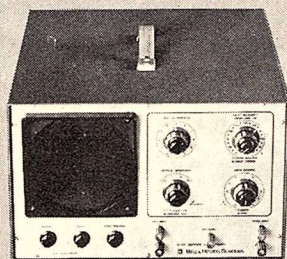
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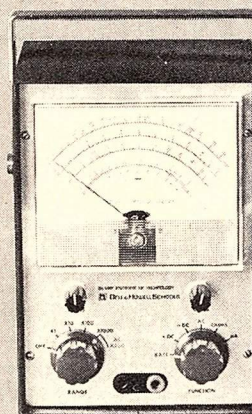
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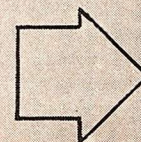


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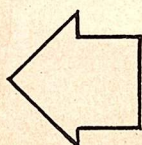


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(Text continued on page 26)

**NEXT MONTH--
YAMAHA 350 TEST**

For many months I had been staying in Japan and Korea travelling on a Triumph Thunderbird motorcycle which had taken me safely through 20 countries in the previous 4½ years. It was my greatest wish that during the summer of 1971 I could ride across Siberia back to Europe, however, after waiting a long time, I had to give up that idea for the time being and, as a rather poor alternative, send the Triumph by ship to England and take the TransSiberian express from Nahodka to Moscow in order to return to Europe.

Siberia! The very name has sounded a challenge to every traveller, in my own erroneous pre-conception it always conjured

inevitable language barrier had been broken down, I got the message, they only sold ice cream! And sure enough, as I looked around the room, there they were, all eating ice cream! I thought, "Those crazy Russians," and my feelings were reiterated a few days later in Novosibersk, as one Sunday afternoon, with the thermometer reading -20, I watched the stars of Russian ice racing performing in front of over 5,000 frozen, but delighted spectators!

In order to appreciate the essential details of the motorcycle scene in USSR it is necessary to start near the end of my Russian journey in Moscow at the office of "Za Rulom" (At The Steering

Wheel) Motor Sport Magazine. Here, through an interpreter, I was able to speak to the chief editor Mr. Shugrov. I asked about the basic economy of motorcycle ownership in the USSR and obtained some rather staggering information. The highest salary that a young technician working industry age (around 22) could hope to earn would be 120 rouble/monthly (the highest salary in USSR is reputed to be 600 rouble/monthly for the president of Moscow University!), and the cost of a 350cc machine is 550 roubles. (The official exchange for the rouble is 1 rouble equals 1 U.S. dollar, though on the world market outside Russia it is worth consider-

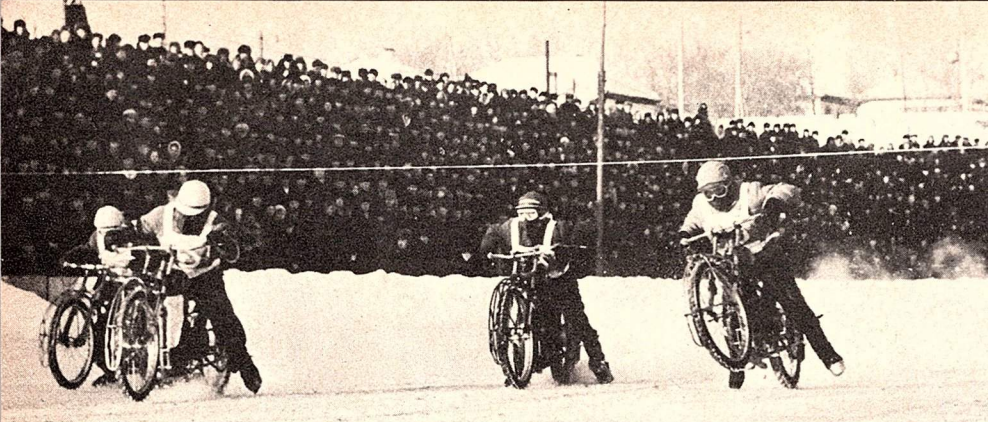
THE RUSSIAN MOTORCYCLE SCENE

THE "SPORT" IN THE USSR

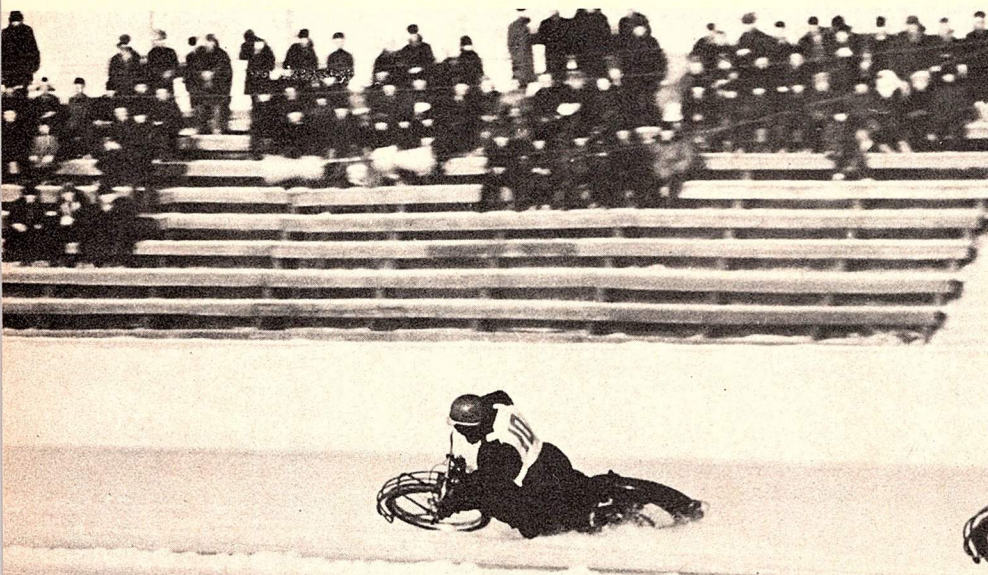
up visions of a vast snow covered wasteland interspersed with the occasional friendly wooden cottage, of course, oil lamps were always burning inside. Little did I expect to find an excellent railway system spanning the continent 6,000 miles in length, fine large industrial cities with well kept streets and excellent facilities for sport and recreation, including motorcycle racing on ice! Though the train journey was a poor substitute for motorcycling; when I crossed Siberia, December, 1971, the whole experience was a revelation. The final blow came one bitter night as I walked in the streets of Irkutsk battling against the wind of a Siberian winter, the other people were hardly visible under their heavy clothing. After half an hour I staggered into what looked like a restaurant gasping for breath. I would drink anything tea, coffee, soup, as long as it was HOT! After the **Gabtrahman Khaderav, ice racing World Champion for the 5th year!**

REPORT AND PHOTOS
BY PAUL R. PRATT

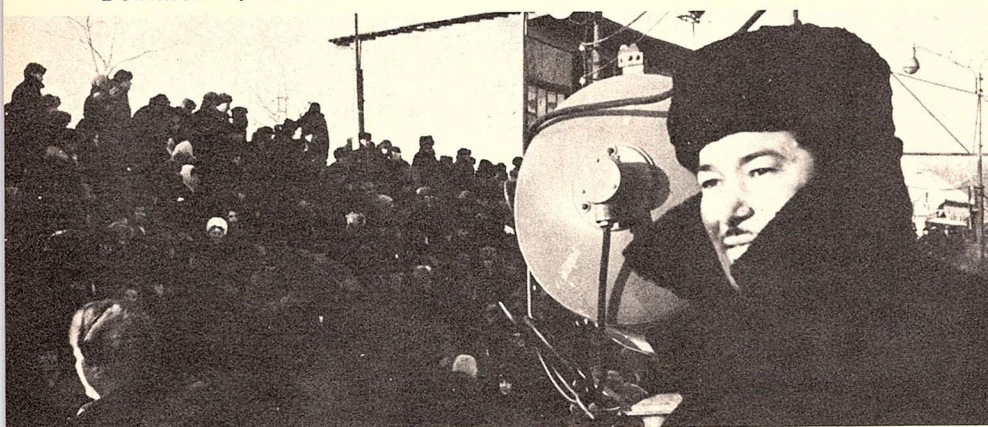




The starting wire lifts, then action! The front wheels tend to lift as the power comes on and the spikes grip the ice.



Dubinin B. in action.



Spectators stand for hours during ice racing with a lot of enthusiasm and the right clothing.



Walking on ice! A parade of the competitors.

ably less.) According to Mr. Shugrov the average boy would have to save for at least 1 to 2 years to buy a 125cc and 2 years to obtain a 350cc.

To the average westerner the outlook must seem rather bleak for motorcycle sport and the necessary home market support for one of the world's largest motorcycle industries (claimed output 2,000,000 units annually). How can our sport flourish without high incomes and the absence of machine, tire, and oil sponsors? We, in the West, would be justified in considering this a pretty grim situation. However, when comparing our way of life and their differing idealism it is all too easy to fall into the trap of seeing everything from one point of view. It can be far more constructive and realistic to examine results, then, at the same time, take an avid interest in their contrasting methods of achievement under a system that is more highly organized to the achievement of results at the expense of a certain loss of individual freedom. In theory, the rider's wealth should have no bearing on his ability to obtain the best equipment, and become proficient in a particular sport, whether it be moto ball, moto cross, reliability trial, etc.

As in the West, the basis of motorcycle sport is the club, after this, the resemblance is difficult to relate. In Russia, the club receives a large grant from the appropriate government committee of Physical Education and Sport. It can also receive some money from entry fees at race meetings and other events. New riders who enter a club to receive training in a particular sport must pay a small fee around 30 cents/yearly. The main qualification for entry to a club is a good school record which is essential!

On being accepted for entry to the club, the new member, assuming that he does not own his own machinery, receives a motorcycle according to his particular interest, i.e. moto ball, moto cross, ice racing, speedway, trial, touring, etc. This machine will, in the first instance, not be the latest model but rather one that has seen service in the hands of older club

members, nevertheless, it will have been well maintained and be in good condition. The member can keep this machine at his own home and is responsible for its maintenance though he receives the necessary spare parts from the club, also, clubs have workshop facilities for their members. An experienced clubman is required to be responsible for the training of each new member. As the new members' ability increases, especially his proficiency in a particular sport, then he should receive a better machine.

The club member is also supplied with motorcycle clothing, helmet, etc. and fuel for events and training. There will be many Novice events for the new rider to compete in before being upgraded to the more advanced and specialized branches of the sport. While some of us might not like or agree with such a system one has only to look at the legendary achievements of Russian riders in ice racing, speedway and moto cross to see that, bearing in mind their country's much lower standard of living, such a system gives fine results. Motorcycle sport is well established in the USSR and apart from government support is well accepted by the general public.

The following sports are practiced by motorcyclists throughout the USSR: Moto cross, using Czechoslovakian CZ machines for International Events; Russian Isch for National competition; moto ball is popular using 175cc Khabrov machines; endurance and cross country time trials with various types of motorcycles; ice racing and speedway draw the largest crowds—the riders prefer Czech Jawa and ESO 500cc motorcycles for this type of event. Road racing is not so well established in Russia as in most western countries. There have, however, been some interesting attempts to produce a machine suitable for International competition. The most recent example which comes to mind was the four-cylinder Vostoc 500cc, rather like the MV in layout. It started at the Imatra International race around 4 years ago and was claimed to develop 80 horsepower; after this initial showing, devel-

opment of this interesting machine does not seem to have been continued.

For those interested in statistics Mr. Shugrov informed me that the first Russian Ice Championship was in 1922 and the highest motorcycle speed record was 230 km/hr. (138 mph), by a Kometa 3 500cc.

As I entered Siberia early December, 1971, I looked from the train window at the frozen landscape and wondered just how much motorcycling could I hope to see in Russia? Sure enough, in the first town that I visited there were some police and other riders plowing through the snow covered streets on rather old Ural sidecar outfits; due to the language difficulty it proved extremely difficult to approach them and they were reluctant to have any photographs taken! One afternoon while looking from the window of the TransSiberian express at a small Siberian village I saw two solo riders on a small two-stroke approach an icy corner too fast and slide off across the road. However, one of my main ambitions was yet to be realized. For many years I had wanted to visit and photograph an ice race and what better place to start than Siberia!

At every town I asked the Intourist guide, "Could I see some motorcycle sport instead of the usual sightseeing tour of buildings and monuments?" In Irkutsk they kindly arranged for me to visit a school training teenage boys to learn how to maintain a motorcycle. However, when I arrived at Novosibirsk on the weekend of December 18 and 19 and found that it coincided with the annual Ice Race Championship between Novosibirsk and Ufa, a town in the Urals, I persuaded the Intourist guide to accompany me and give an introduction to the motor sport organizers. The event was taking place at a course known as the "Moto Drome" on Sunday afternoon. Mr. Kooznetsov trainer of the Novosibirsk team, gave some interesting information about the event through an interpreter. It was the traditional meeting with the Ufa team which had come many miles from the Urals. There



ESO ice racing motorcycle and a Novice rider of Novosibirsk motorcycle club in Siberia.

were two meetings every year and this was one of the most famous of Russian ice racing competitions attracting their best riders of International status. The Championship was named after Nerasov (I never dared ask who he might have been). Novosibirsk meets three cities in the Championship every year in Novosibirsk. I learned that on the previous day there had been a team competition which had resulted in a win for Novosibirsk with a score of 45 to 33. A crowd of 5,000, which Mr. Kooznetsov described as "disappointing," waited in the -20 temperature, anticipating some exciting racing in the individual championships on Sunday, December 10. This was more or less assured with the ice racing World Champion for four years running, Khaderov, matched against such stars of International fame as Dubinon and the latest "find" Paznikov who, at 22, is Russia's finest prospect for the World Championships in ice racing and speedway.



A medical examination from an attractive doctor is required for the riders before the event.

The Sunday races would be run in a series of 20 heats with the complete teams taking part, 7 riders from Novosibirsk and 7 from Ufa, making a very full and exciting program. Points would be awarded as follows: Win — 3 points, 2nd — 2 points, 3rd — 1 point and 4th—0. The organization seemed very thorough, before the race each rider received a medical examination from an attractive female doctor! And in view of what lie ahead, this was well justified!

All facilities were extended so that I could take photographs. The machines were brought out from the warm garages and I had the extreme pleasure of meeting many riders. Mr. Zooznetsov guided me across the ice to the center of the circuit, which would be a good place to take photographs. Trying to stand on the smooth ice surface of the track I thought, "How can anyone walk on such a circuit, let alone ride!" This was the first time that I had had the opportunity to see ice racing at first hand, coupled with that it was my first visit to a motorcycle sport event in the USSR. It is difficult to describe adequately what I felt at the time, the racing seemed like speedway though much more dramatic and exciting using machines with large spiked tires. The riders completed the course at great speed, seemingly under perfect control, throwing up a shower of splinters as the rear wheel spikes dug into the ice. I was warned not to approach the course too closely as a rider might slide out of control. However, during the whole event, this never happened. Between each group of heats a large truck with plough and scraper attached to the front drove around and levelled the course off. This was necessary as the spiked tires had, by this time, torn the course up into a series of rough grooves.

Only the week before I had been in the relatively warm winter climate of Japan, the cold seemed intense. I tried to operate my cameras with gloved hands and had little success. At one point film became so brittle with the cold that it broke and I never felt

anything wrong until I had missed many exposures! Between heats I was lucky to be invited into the club house before the start of the next races. As I came into the warm room the camera lens steamed up and it was possible to thaw out a little. I wondered how the spectators managed to sum up enough enthusiasm to stand out in the cold for four hours with little protection from the cold Siberian wind.

The racing was extremely exciting. As in speedway the start seemed very critical. The riders let the clutch in as a wire across the track was lifted, too much power and the front wheel lifted and the machine tended to go out of control. Too little power and the rider came late into the first corner. The atmosphere sur-



It would take more than a Siberian winter to deter these youthful enthusiasts of our sport.

rounding the meeting was friendly and enthusiastic; the critical heats were numbers 13 and 17 and, at this time, the crowd cheered with excitement. In the 13th heat Kharderov and Paznikov were racing and, up to this time, both had maximum points; in this heat Paznikov came in first and Kharderov second. In heat 17 Kharderov and Dubinion were together and, up to this time, both had lost one point; this heat decided second point place as Dubinion came first and Kharderov second. Both of these heats were extremely close. Some people were saying that Kharderov was not really "trying," others said that Paznikov was the future pros-

pect for the World Ice Champion. The overall scores were Paznikov—15, Dubinion—14, and Kharderov—13.

I was just left with the highest respect and amazement that anyone could ride at all under such tough conditions. Finally, the In-tourist guide left me as she was not very interested in motorcycling. Then it was easy, in spite of the language barrier, to relate with the riders and their friends. The mutual enthusiasm for our sport can easily surmount such artificial barriers.

Later, through an interpreter, I was able to speak with Paznikov and Kharderov. Though Kharderov has travelled to the West many times his use of foreign languages would appear to be limited to such useful phrases as "Hello Girlie," and "Vakra Flika." All through our conversions I was extremely impressed with their modesty and utter dedication to our sport of motorcycling. During this experience I kept wishing that others could have the same opportunities as myself to bypass for only once the speeches of politicians and come to know such people who, by any standards, were motorcycle sportsmen of the highest caliber. It was with the greatest pleasure that I read long after leaving the USSR in "Motor Cycle," of March 15th, that in the World Ice Racing Championship Kharderov had again achieved first place for the 5th year in succession, and that Paznikov was third in the overall Championship, as a result of the meeting at Nassjo, Sweden.

The president of the Novosibirsk club gave me a ride back to the hotel after the meeting; that was a memorable experience, at the end of a memorable day. He must have been a well known and important personality in Novosibirsk; wearing uniform, great coat and fur cap, he certainly looked the part as he took Kharderov and myself back to the city. In the car was a loud hailer and whenever we came across a bus or car in the way, which was very often at the speed he drove along the rutted icy road, he just shouted at them to move over and let us pass. They immediately complied, even when, on one occasion, we did a U turn right across

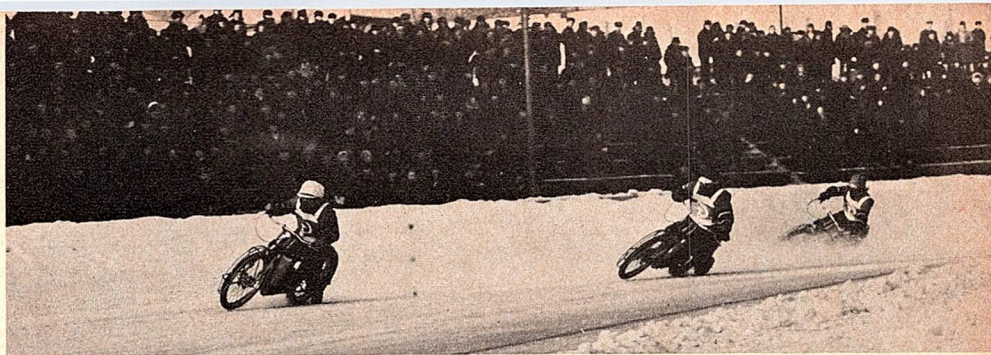
a main thoroughfare. Here I was in Russia after my first ice race ever, and now the whole scene passed in front of me like a film. Surely this cannot be reality! I must be dreaming and then, as if to bring myself back to earth, I noticed that the interior of the president's car was literally covered with Castrol Oil and STP stickers!

Instead of the usual sightseeing tour, the Intourist guide in Irkutsk, Siberia, agreed to accompany me as interpreter to the municipal School of Education and Culture where, among many activities, there was a training course for teenagers on motorcycling. This was an evening program for workers and students. As I walked with the attractive Intourist guide through a snow storm I wondered just what to expect at this School of Education and Culture in Irkutsk.

We came out of the cold into a large building which had obviously been converted for the purpose. Immediately on entering there was a ballet dancing class in progress. As the Intourist guide left me briefly the instructor came over and spoke at some length to me in Russian. The guide translated that he was explaining that there was no public program for ballet dancing fans that evening! However, we located the correct room descending a spiral staircase surrounding a large water fountain. Surely there could be no motorcycle class in such an atmosphere!

At the bottom of the stairs we came to a small room which was sparsely furnished. There were benches around the room and several students were dismantling engines, carburetors, etc. In the center of the room were three motorcycles and one three-wheeler delivery truck. The walls were covered with charts and sectional diagrams of different types of motorcycles all of Russian make. Ever since my connection with the R.A.C./A.C.U. training scheme in England I have been interested in this subject. So with the help of my guide I questioned Mr. Yevgeny Ruzhnikov, class director, and gained the following facts about their program.

The course is free to all young people in the age range of 14 to



The crowd gets its money's worth with close competition. Note the last rider covered in ice splinters!



The Russian girls are interested in the motorcycle sport too!

17, and again the main qualification for entry is a good school record. The total course time is 180 hours divided up as follows: Road Safety—40 hours, Maintenance—80 hours, and Practical use outside and riding—60 hours. At least 13 motorcycles were available for the students training, and Mr. Ruzhnikov explained that he took four groups of 15 students 4 hours per week. He usually had two to four girls per class. During the summer, in addition to outside training, they ran summer camps using the school motorcycles for this purpose. Another incentive for his students to complete the 180-hour course was free admis-

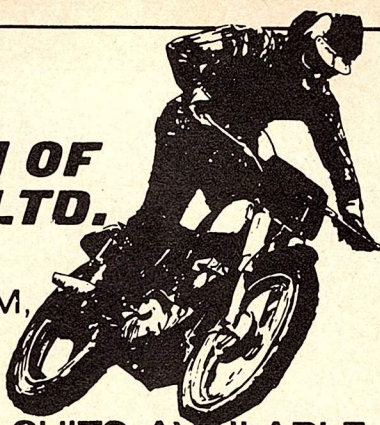
sion to all the motorcycle sport events at the Irkutsk stadium. After successfully completing the course they have the opportunity to automatically enter one of the local motorcycle clubs. Irkutsk's population of 500,000 has five motorcycle clubs.

At the same time I also learned about another similar network of motorcycling sport schools accentuated towards the sport run by DOSAAF in many of the larger Russian cities. These courses are for boys age 14 to 16 years, and embrace many types of sport activities run by a society under the Army, Navy, and Air Force.

(Text continued on page 63)

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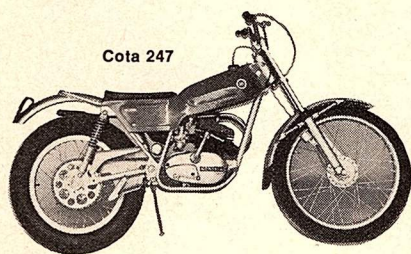
New



HAND HANDLER

Serious bike racing is rough on hands, but the experts know how to protect themselves from blisters and open sores no matter how tough the going. Wrapping the hands with adhesive tape is a common practice, but it soon wads up into one narrow band and heightens the discomfort. Best of all—and take a tip from World Champion Joel Robert of Belgium—when you're riding for long dis-

(Text continued on page 30)



Cota 247

This motorcycle and this rider

won the Scottish Six Day Trials (Team) in 1969, 1970, and 1971
. . . and the British Trials Championships in 1970 and 1971.

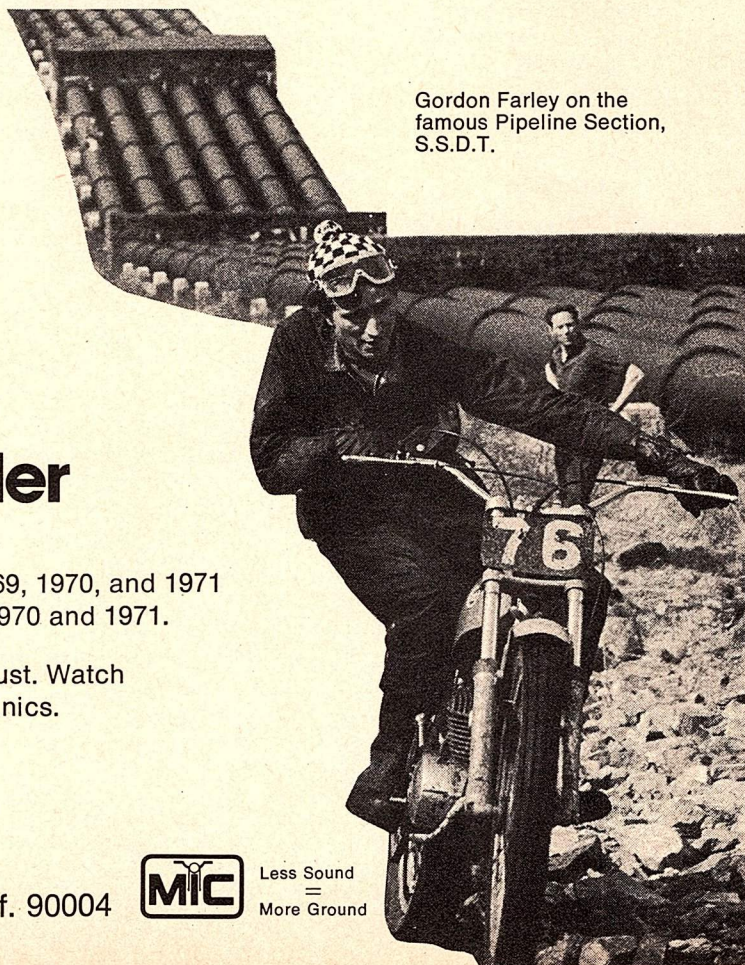
Gordon Farley will be in the U.S. in July/August. Watch
for places and dates of his exhibitions and clinics.

VIVA
Montesa

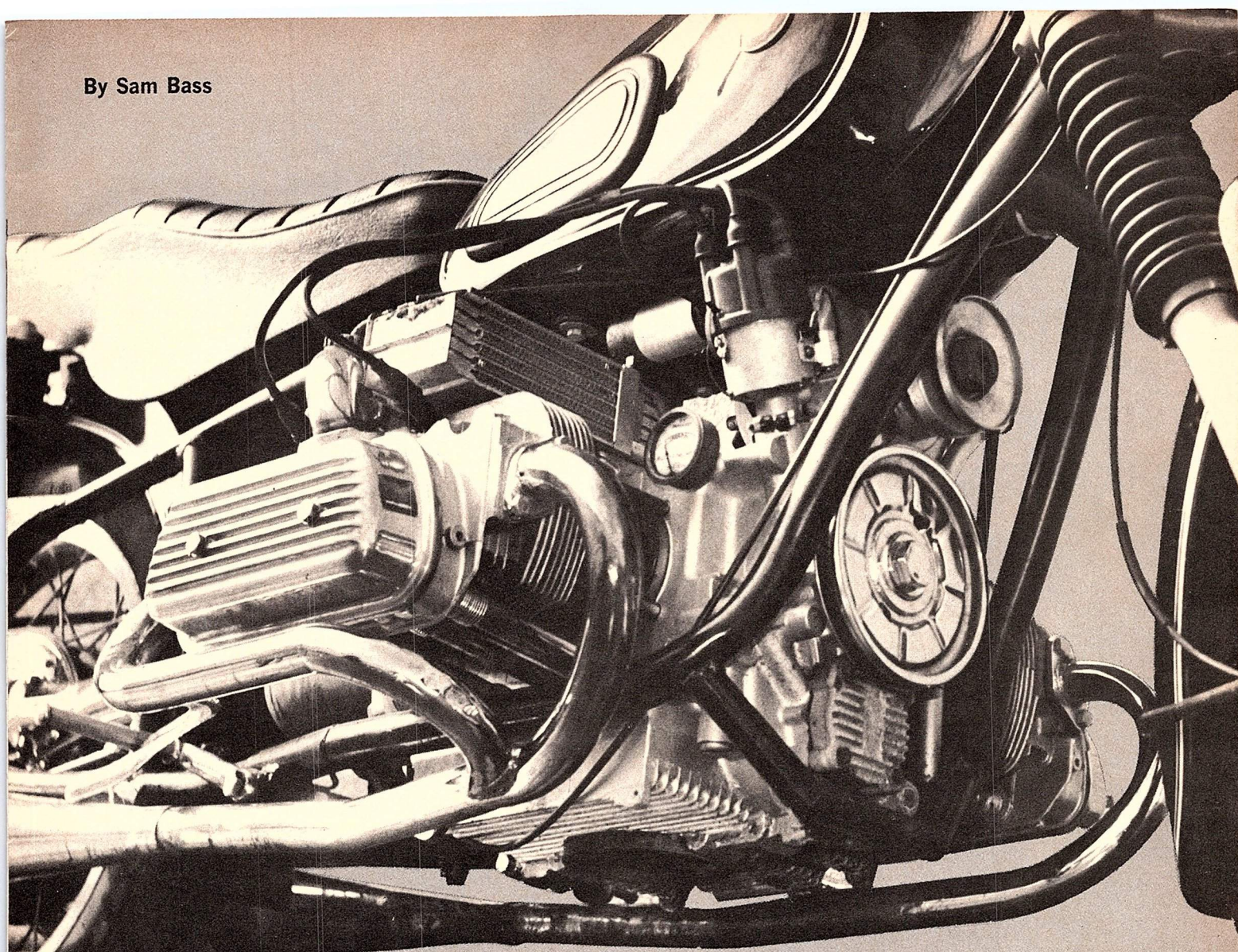
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Gordon Farley on the
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THE MINDBENDER BMW

**VOLKSWAGEN POWER AND AN
ALMOST STOCK APPEARANCE
COMBINE TO MAKE MARV JANTS'
REVITALIZED R50 A REAL WINNER**

The hot rod community has long known that the best route to better performance is often an engine swap. Dropping a larger engine in a vehicle will usually result in the best of two worlds, top performance combined with the reliability and economy of a stock engine. The art of engine swapping is not often exercised with motorcycles, but Marv Jants' Volkswagen powered BMW R50 is an impressive exception.

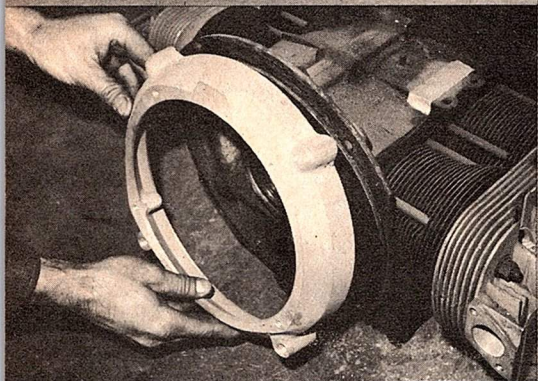
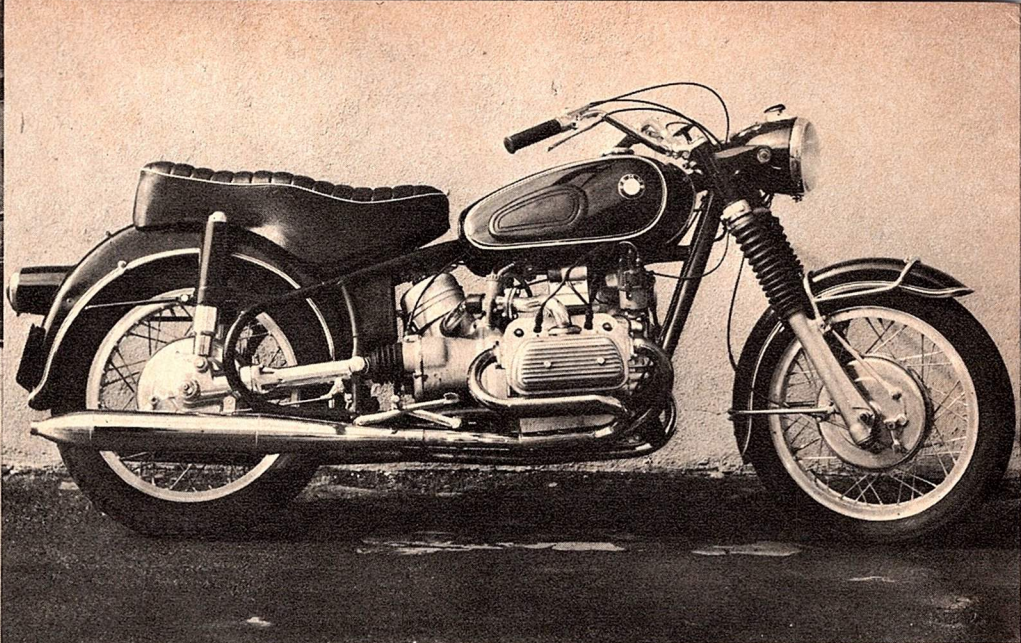
At first glance, Marv's BMW has a deceptively stock appearance. Careful mating of the VW engine and BMW components make the engine look as natural in its present setting as if it had always been that way. This illusion is especially true when the machine is viewed from the side.

It should be no surprise that this bike turned out as clean as it did, since it represents the seventh BMW to which Marv has applied the VW treatment. From this you might gather that Marv spends most of his time shoe-horning Volkswagen engines into motorcycle frames, but it is actually only a hobby. Marv, along with Earl Allen, owns A & J Manufacturing, a company that is well known

around the motorcycle industry. Their principal product is a classy line of oil tanks for Harley-Davidson 74s, Sportsters and Triumphs.

This current project got underway when Marv found that he had a pile of spare parts laying around collecting dust, and decided to put them to good use. Most of his previous conversions were custom bikes, and Marv figured he wanted this machine to retain its basically stock appearance.

The basic foundation for Marv's project is a 1966 BMW R50. The first step in the construction process was to modify the R50 frame to accept the Volkswagen engine. In order to provide clearance for the oil pan area of the VW block, the cradle tubes had to be set farther apart, by 4 inches. Since



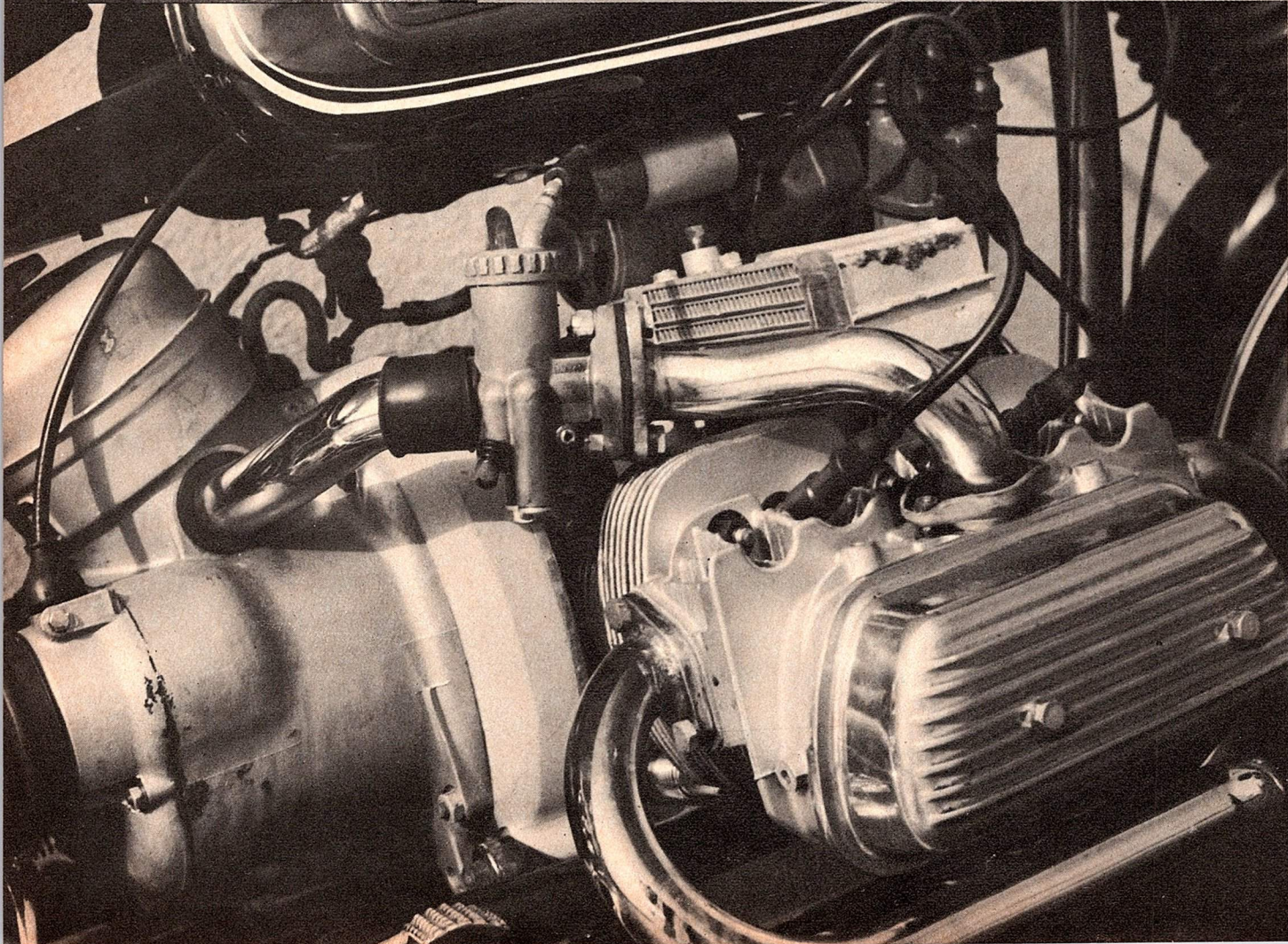
Marv Jants' BMW has a deceptively stock appearance, especially from the side, a fact that further enhances the bike's real potential.

In order to fit the VW engine, the BMW frame had 4 inches added to both its length and width. With these changes, the engine slipped nicely into the BMW engine cavity with a minimum of effort.

An oil cooler from a VW Squareback sedan is mounted on the right side

of the engine. Note the clean method of mounting the BMW carburetors to the VW engine.

An aluminum adapter was specially designed to mate the Volkswagen engine to the BMW gearbox, resulting in a combination that looks like it came that way from the factory. On the street, the VW-powered BMW is a well-mannered but potent performer. The protruding cylinders in no way interfere with the rider.



the Volkswagen block is longer than the stock BMW, the frame was also lengthened 4 inches. With these modifications completed, a new front crossmember was fabricated, and the necessary engine mounts were fitted.

The engine used by Marv for this conversion is a 1968 Volkswagen. The 1500cc engine is basically stock, with the exception of the specially fabricated exhaust system and a few bits and pieces of chrome and polish here and there; but it still provides plenty of punch for the bike.

The Volkswagen engine is mated to the BMW gearbox with a specially fabricated aluminum adapter. The adapter is produced in limited quantities and is available through Marv from A & J Manufacturing's Northridge, California, shop, if you're contemplating a similar conversion. The VW engine adapts to the BMW transmission as if it were always intended to be there.

One of the neatest tricks of this particular installation, however, is the carburetion system. Marv modified the carburetor to air cleaner tubes from a BMW R60, and used these to mount BMW carburetors to the VW engine. This simplified the throttle hook-up, and allowed a stock connection of the carburetors to the BMW air cleaner that is carried as an integral part of the transmission housing. The carburetors are tucked well in, out of the way, and further enhance the stock appearance of the machine.

In previous BMW-VW conversions, Marv found weaknesses in two primary areas, engine cooling and the BMW clutch. The engine cooling problem seems to have been solved, in this latest attempt, by using an oil cooler from a VW Squareback sedan. The cooler lays flat, so it is out of the way, yet its positioning above the right bank of cylinders puts it well into the airstream for maximum efficiency.

In an effort to head-off an anticipated clutch problem, Marv used the strongest BMW clutch he could, a late model unit from the BMW 750cc engine. The 750 clutch seems to be more than adequate under normal riding conditions, but it is still lacking a bit

when it comes to utilizing the full potential of the machine.

Riding the BMW-VW is not really too much different than riding a more conventional machine, except that you have a ton of power on tap when you decide to turn the wick up. The standard BMW kick-start lever is used to turn the engine over. Starting the VW requires a firm kick, but is not nearly as difficult as you might expect.

The bike accelerates smoothly, stops safely, and is well balanced, for solid, sure-footed handling. Acceleration and highway cruising are so effortless, the machine could actually be geared a bit higher to take full advantage of the wide power range of the Volkswagen.

As is the case with most pro

jects of this sort, Marv still has several changes in mind for the future. Plans call for an improved clutch, and possible a gearing change, along with several other smaller changes. This all assumes that he doesn't get sidetracked by another project first, and from the way he sounds when he talks about the possibility of plugging a VW engine into an early shaft-drive Harley-Davidson, the chances of another project seem high. For now, however, Marv can enjoy the mindbender BMW, and let the future come when it comes. ●

This rider's-eye view provides a good look at the basic layout of the machine.

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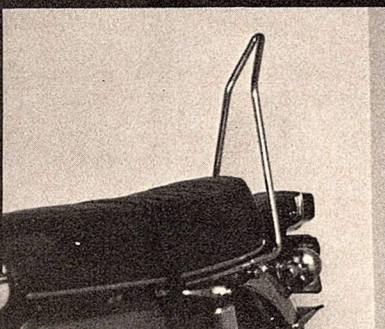
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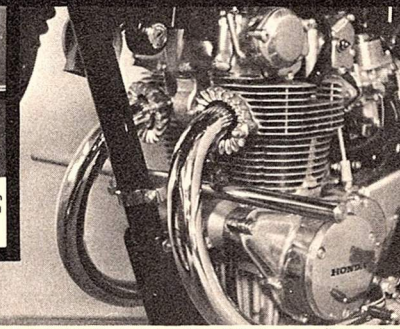


THE "CUSTOM LEANER" is a solid steel, triple-chromed sissy bar that will add looks and chicks to your bike. No ugly welds to break. Mounts to the inside of the rear shocks for a clean looking installation. Prices for the round and square styles are ONLY: \$19.95, \$21.95, \$23.95, \$25.95. For the twisted style, ONLY: \$26.95, \$28.95, \$30.95, \$32.95. Not much to pay for looks and chicks! Match your "Custom Leaner" with a "Custom Cruiser".

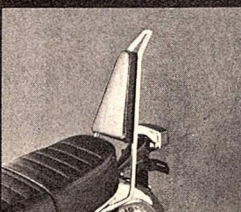


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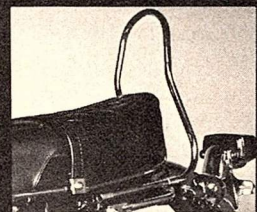
INSTALLED



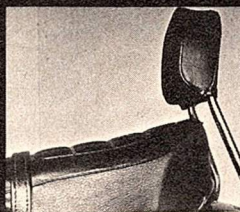
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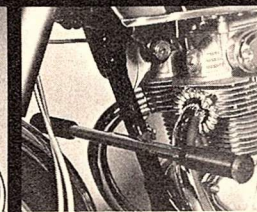
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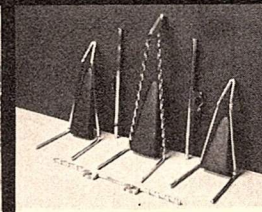
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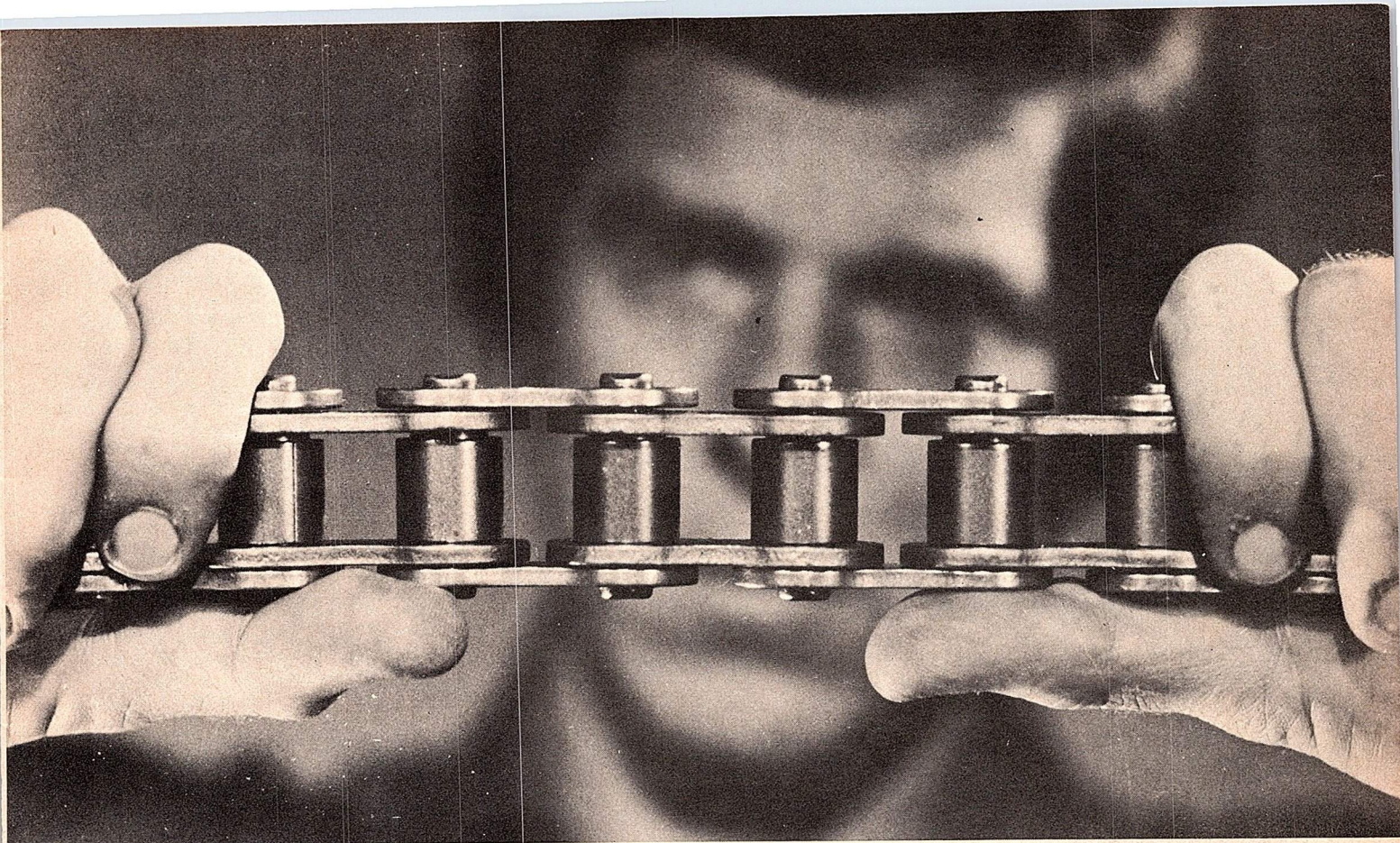
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Spaces between plates and rollers are necessary working clearances and areas for lubrication to penetrate into the pins and bushings.

CHAIN There's More To It Than Just Pins And Plates **GUIDE**

What is the most abused, used, and least cared for part of a motorcycle? Not all motorcycles, just most. It snatches, sags, kinks, is sprayed with dirt, mud, and water, and its sole responsibility is to transmit power from the engine to the rear wheel. The thing is overstressed, under cared for, and we continue to ignore it unless it parts and leaves us stranded, at which time we curse it to unbelievable extents.

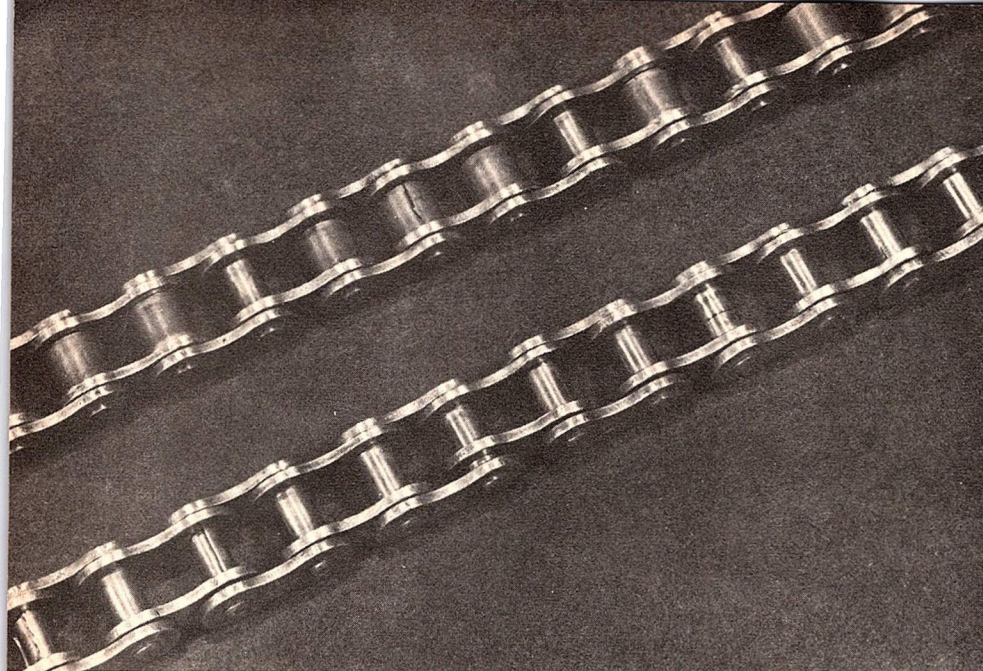
A roller chain is one of the most efficient methods to transmit power to the rear wheel of a motorcycle. It is light, not complicated, and inexpensive when compared to shafts and bevel gears. Its only fault is that it needs periodical attention which we the motorcyclists fail to do. In order to fully understand the problem we must

first obtain a working knowledge of the roller chain.

A roller chain consists of a series of alternately assembled roller links and pin links, in which pins articulate inside the bushings, and the rollers are free to turn on the bushings. Pins and bushes are press-fitted and riveted in side plates. As the rollers engage the sprocket teeth they should revolve freely on their respective bushings. The chain bends around the sprocket at its pins, which are inside the bushings and fasten the plates together. As the chain leaves the sprocket and begins its journey towards the other sprocket it should unbend on its pins and form a smooth arc. (Chain that suffers from lack of lubrication will kink and sometimes a rust

colored powder will form between the plates. This is a red oxide that is caused from excessive heat and lack of lubrication.)

When this happens the bushings become loose on its pins and the pitch dimension begins to get larger. Sprockets, like chains, are made to specific dimensions and very close tolerances. The radius between their teeth is precisely machined to fit the chain's roller and the distances between these radii is the same as the pitch of the chain. So as the chain wears the distance between the rollers increases and the contact side of each tooth on the sprocket takes an increased amount of wear from each roller. Consequently, a worn chain will wear out the sprockets it comes into contact with. Also, badly worn sprockets will wear



Rollers have split and broken away on both chains. Some bushings on the lower chain are actually broken up.

wears at a much higher rate than the rear one.

So lubrication at the pin in its bushing and the roller on the same bushing become all important to the useful life of a roller chain. Lubricant should be applied to the link plate edges since access to pin-bushing-roller clearances is only possible through clearances between pin link plates and roller link plates of single row chain. Chains are lubricated when they come from the factory new, however, this original application will not last the life of the motorcycle.

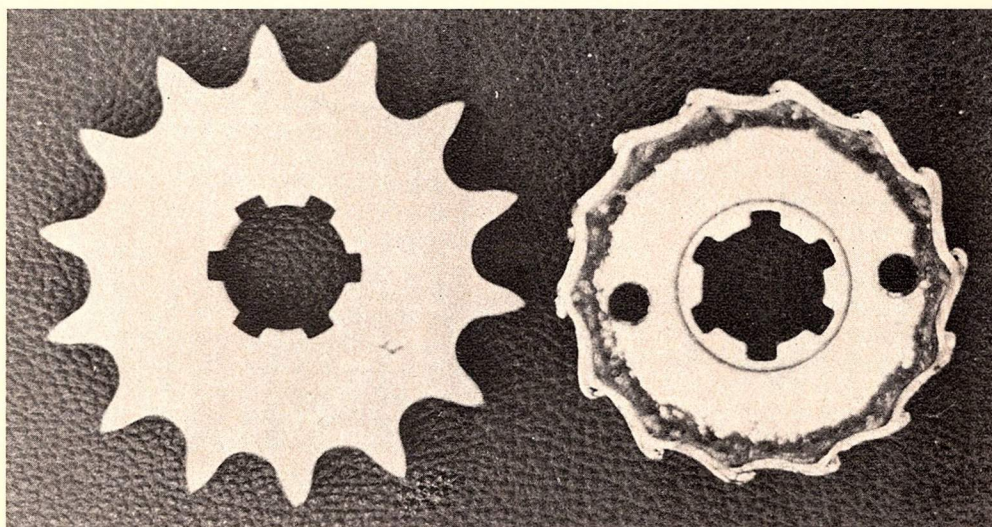
One of the best methods for lubricating a chain is to submerge it in a pan of grease and boil it. This method, although practiced in Europe, is both messy and time consuming. Currently on the mar-

out a brand new chain much sooner than one would expect.

How can you tell if a chain is worn out? Simple. Most rear chains are close to 5 feet long when stretched out. The pitch, or pin to pin distance, is either $\frac{5}{8}$ ths or $\frac{1}{2}$ -inch. Stretch the chain out on a flat surface and in a straight line. Hold one end and pull the other, then mark where the chain stretched to. Now carefully compress the chain link by link making sure it stays in a straight line. When fully compressed the chain will be shorter, there will be a distance between it and the mark previously made. If this distance is more than the pitch dimension ($\frac{5}{8}$ ths or $\frac{1}{2}$ -inch), then the chain has served its useful life. Additional running will cause accelerated wear on the sprockets.

Sprockets are well worn when they begin to lose their original profile. They're gone when they begin to look like a whole series of hooks.

Wear occurs between the pins and their bushings. The chain is under tension as the bike either accelerates or is backed off, each link bends a number of degrees as it goes around each sprocket. It bends the most on the sprocket with the least number of teeth. Basic engineering practice is to



Sprocket on the right is totally worn out, in this case the machine's owner thought he had lost his gearbox

because it wouldn't go anymore. The chain and rear sprocket were also wasted.

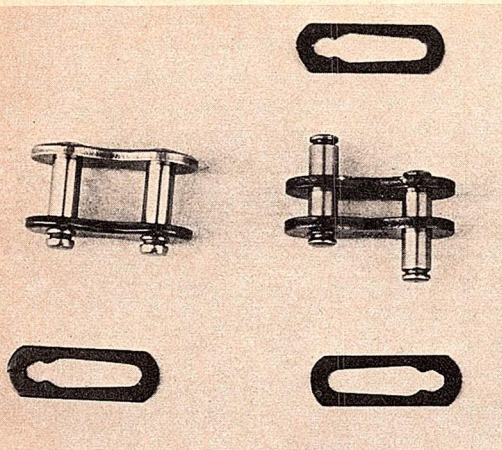
have 17 or more teeth on the smallest sprocket. It only makes good sense that the more a pin has to move in its bushing the sooner it will wear out.

In practice, a common motorcycle countershaft sprocket of 16 teeth will require the chain to flex 23 degrees at each joint. A sprocket of just 2 teeth less (14), will require a chain movement of 27 degrees. (These figures are constant regardless of chain pitch.) Also, the countershaft sprocket will make 2 to 4 times the number of revolutions as the rear wheel sprocket. Consequently, the countershaft sprocket

ket are a host of aerosol-type canned chain lubricants. When sprayed out of the can they have a thin consistency which allows the lubricant to enter close tolerances between the pins and rollers to lubricate this area. The thinner evaporates and a film is left on the working parts. Pressure from the aerosol can aids greatly in the penetration of the lubricant. There are also squirt-on types, drip-on, and even a mix-it-yourself chain lubricant. Any attempt at lubricating the rear chain will increase its useful life regardless of the way you go about it.

While on the subject there are

Pins And Plates



Two types of masterlinks; the double link shown on the right is the latest technology for roller chain master links.

two other important factors that are to be associated with chains: Adjustment and alignment.

It takes an understanding of geometry to come up with the proper method to adjust a rear chain. The swing arm pivots at one point and moves approximately 4 inches at the rear wheel. The location of the countershaft sprocket is usually 5 inches in front of the swing arm fulcrum. (If the countershaft sprocket were mounted on the swing arm's fulcrum or pivot point then the chain would remain at a constant adjustment through the 4 inches of arced travel of the rear axle.) When the rear axle is in its center position, a straight line should intersect the countershaft sprocket, swing arm fulcrum, and rear axle; the chain is in its tightest position. As the axle moves up or down from this position the chain will become looser because the distance from the axle to the countershaft sprocket is shorter. Therefore, chain adjustments should al-

ways be made when the chain is in its tightest position.

Alignment, or rather misalignment is the reason chains fall off. The rear sprocket and front sprocket should be in perfect alignment with each other. If the swing arm is bent this perfect alignment cannot be obtained. So bent components, flexing frames, and/or misaligned sprockets will cause the chain to come off. Notice, we did not say anything about the chain being too loose. A too loose chain could be knocked off the sprockets from something like a branch but it is not the nature of a chain to jump off its sprockets when everything is in perfect alignment. The common recommendation for chain slack at its tightest position is $\frac{1}{2}$ -inch. Because many sprockets are not truly centered on their axle this measurement should be taken three or four times rotating the rear wheel each time.

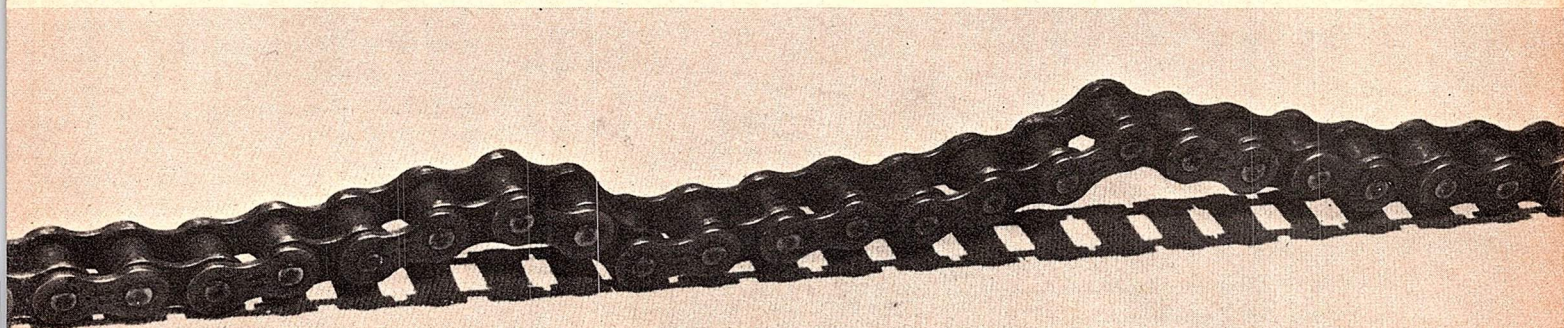
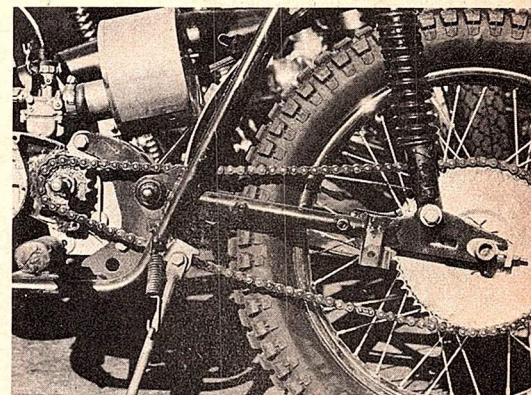
Chains also break. They generally break at their weakest point. As previously discussed roller chains are fastened together with pins. The pin is a hardened steel dowel that's riveted on both ends securing the side plates, except at the master link. The master link, because it is intended for the layman to take apart with simple tools, is only riveted on one side with the plate for the other side being a slip fit and secured with a steel clip. Pins are press-fitted

into the plates and even the master link pins are press-fitted in the one plate. The other plate is a slip fit. Because of this slip fit the pins will work within that tight tolerance and eventually enlarge the holes in the plate.

The press fit on the other plate becomes sloppy from the movement of the pin and the whole assembly soon falls apart. Some of the latest chain on the market offers plates that are of an interference fit and it takes a pair of vise grips to get them assembled. They also give you spare plates and recommend replacing them periodically. Recently, many of the high performance super bikes went to endless, or riveted-type chains. No master links to get sloppy and fall apart.

So even something as old and widely used as single row roller chains are constantly being improved. Motorcycles give them the most severe tests and this punishment is compounded by the lack of care the motorcyclist administers to his chain. The basic ingredient for long chain and sprocket life is lubrication. It's up to you, the owner, to look after it or end up taking an unscheduled walk.

An illustration of the distance a chain travels and the effect the movement in the swing arm has with chain adjustment. This arm must compress approximately $1\frac{1}{2}$ inches before the chain is in its tightest position.



A chain should stay flat, this one is kinked and bound up from lack of proper lubrication.



THE European RACING GAME

continued

gined 170cc Experts Trials is in full production and proving to be the best of the lightweight "bog-wheelers." Norton-Villiers are to buy frames and other parts from Italy. Jawa are outfitting the Canadian 1972 International Six Days team. Maico have their new

radial finned engines on the market. Works Bultaco moto man *Malcolm Davis* chooses a Greeves conical hub for his rear wheel as being the strongest without weight excess. The trials *Gaunt-Suzuki* is back in production and in winning form. AJS works rider *Vic Eastwood* has the quietest moto cross bike in action—and performances prove that silencing has not impaired performance. *Kawasaki* are entering the trials game and likely first pilot is Don Smith who was closely concerned with the initial development of the Montesa Cota Mk 1. *Yamaha* have withdrawn from the arrangement to sell the LT-2 and CT-2 models in the U.K. as they cannot get the noise buggles within the country's regulations. *Husqvarna*, using their new 125cc 6-speed moto cross frame set-up, have charmed a 360cc motor into it, and with an overall weight of 187 pounds must rank as the lightest ever—*Bengt Aberg* and *Heikki Mikkola* are to use these special Husqvarnas in championship events. ●

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Racing Pistons Complete with Dyke Rings, Pin, and Circlips. Comes in Standard and Four Oversizes. Each oversize increases 0.5mm instead of 0.25mm. Tarabusi Pistons Available in Six Oversizes.

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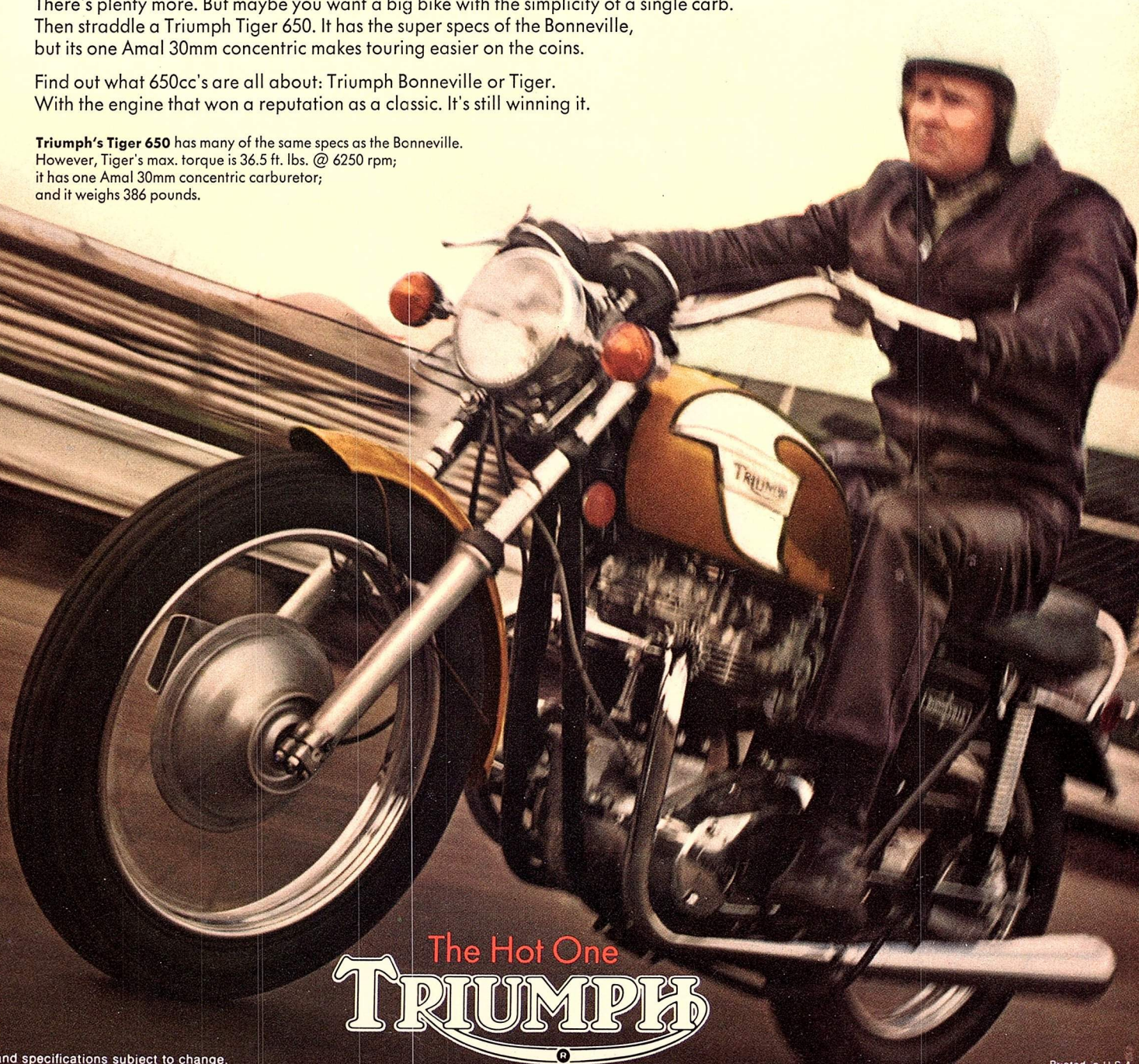
It has aluminum alloy forks—stronger yet lightweight, and they damp $6\frac{3}{4}$ " both ways. Conical alloy hubs brake surer and cooler while they cut unsprung weight. And the double-loop frame is hand-welded for double strength.

There's plenty more. But maybe you want a big bike with the simplicity of a single carb. Then straddle a Triumph Tiger 650. It has the super specs of the Bonneville, but its one Amal 30mm concentric makes touring easier on the coins.

Find out what 650cc's are all about: Triumph Bonneville or Tiger. With the engine that won a reputation as a classic. It's still winning it.

Triumph's Tiger 650 has many of the same specs as the Bonneville. However, Tiger's max. torque is 36.5 ft. lbs. @ 6250 rpm; it has one Amal 30mm concentric carburetor; and it weighs 386 pounds.

ENGINE TYPE OHV—4 stroke
CYLINDERS 2
MAX. TORQUE 38.5 ft. lbs. @ 6000 rpm
BORE/STROKE 71 x 82mm
COMP. RATIO 9:1
TRANSMISSION 4-Speed gearbox
5-Speed gearbox
CARBURETOR 2-Amal 30mm conc.
FRONT TIRE Dunlop 3.25 x 19" K70
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DRY WEIGHT 387 lbs.
FUEL TANK 2½ & 3½ gals.
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The Hot One
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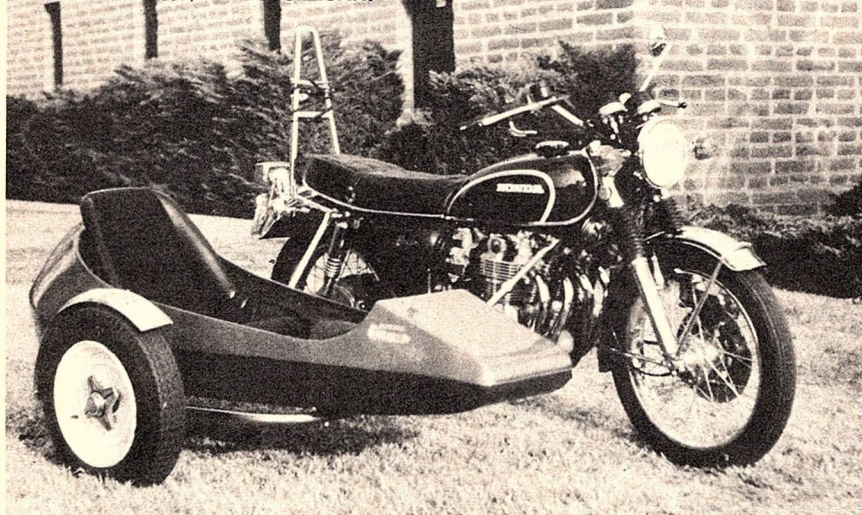
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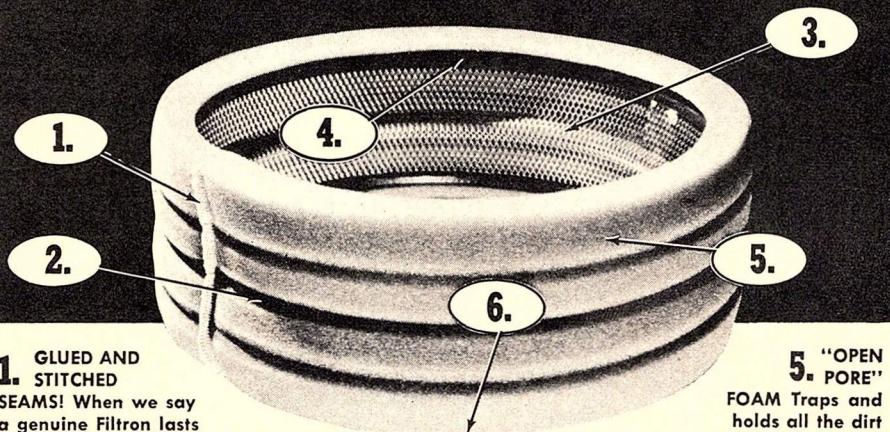
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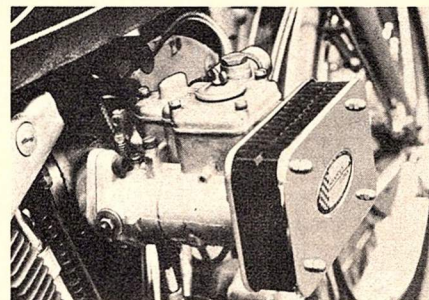
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MULTI-TOOL

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(Text continued on page 56)

There was a time when we had but one choice in a motorcycle, a stark basic machine designed to haul a guy down some road. But the spectrum of motorcycling has grown to such proportions that single companies offer nearly a dozen kinds of machines to do nearly that many different chores. Now, since there is a variety of bikes to choose from our potential motorcyclist is more confused than ever. Progress has brought variety, and variety has created indecision.

Our readers from time to time have asked in letters and such which type of motorcycle would be best for them. (A very difficult question to answer.) Many times the indecision is between a moto cross and an enduro model of the same maker. So we have come up with the dual test concept in order to help our readers make their own decisions. Our current subject is the new BSA B50 Trail and B50MX.

These bikes are basically designed for moto cross or scrambling with the MX, or enduro riding and trailing with the Trail model. If they can do each other's job to any degree, and how closely they parallel each other, is what we'll discuss in our test feature.

Among bikers there is always the two-stroke/four-stroke debate. Because this subject stirs up a lot of controversy, especially because off-road motorcycling has been dominated by two-stroke machinery, we feel the new 500cc BSAs are well worth looking into. It's the only half-litre displacement, single cylinder machine on the market for off-road use, and it's all British.

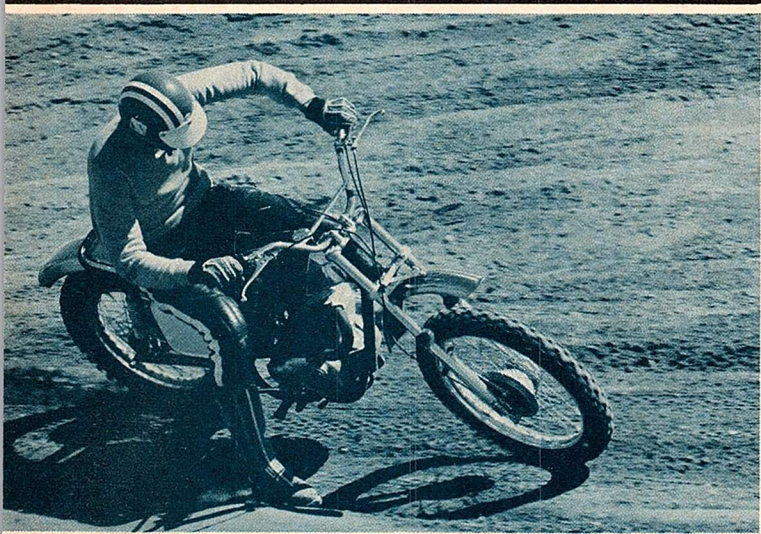
We'll start with the B50MX, a motor crosser. The bike looks the part, lean and cobby with outsized number plates on each side that just happen to concur with the latest AMA size regulations. The eye catcher is a polished aluminum gas tank. A tiny thing (1¼ U.S. gallon capacity), with a broad Hi Violet (purple) stripe diagonally across it and another down the middle of the tank to cover a weld seam.

Polished stainless steel fenders match the luster of the gas tank and engine cases. A moderately finned cylinder and head cast from aluminum fill an area under the tank and bolt onto a teardrop-shaped pair of castings that make up the crankcase and transmission housings. A flat black exhaust pipe snakes out of the cy-

linder head and disappears behind the frame tubes exiting in a miniature megaphone just ahead of the right hand rear shock. A concentric Amal with a 32mm choke size feeds the big single and is partially hidden behind frame struts and a pair of fiberglass numberboards.

It's a basic moto cross concept with a pair of cross country handlebars bolted on the upper triple clamp. These same handlebars are on the Trail, or B50T. Similarity between these two machines is readily recognizable once you separate the trimmings from the T model. Wheels, forks, frame, and engine are virtually the same. Trials Universal block tires are fitted to the Trail machine instead of the Sports knobs found on the MX. It still has the flat black high flow exhaust pipe but terminates into what has got to be the biggest muffler for a single cylinder

DUAL TEST:



THE BSA B50T AND B50MX

There's Something For Everybody and BSA Has Something Very Special.



motorcycle on record. The T has that same pretty alloy tank and color combination and it has been enlarged to a sensible 2½-gallon capacity.

The B50T is a street legal motorcycle, it should meet the specifications of such hard-nosed states as California and Michigan. Its front brake cable has a switch in it to operate the stoplight and it has reflectors and turning indicators fore and aft, hardly necessary for the serious enduro rider. Also of interest to the enduro rider is a speedometer, the B50T has one. It takes its drive from the rear wheel and trips back in clumps so it could be better for the serious enduroist. Skid plates are necessary for the off-roader and one is found on the T, the MX is devoid of such an item.

Both machines mount their conical hubbed rear wheels in a very rigid, unique way. At the ends of the swing arm are two steel tubes that fit the rear axle. The light-weight wheel is simply retained there in a position true to the arm, it cannot be misaligned. Chain adjustment is done at the fulcrum of the swing arm using a set of holes that are drilled in cam plate fashion.

The T uses chrome plated steel fenders and the front ones mount high under the bottom triple clamp on both models. A light conical hub featuring a single leading shoe brake is fitted on both. Alloy

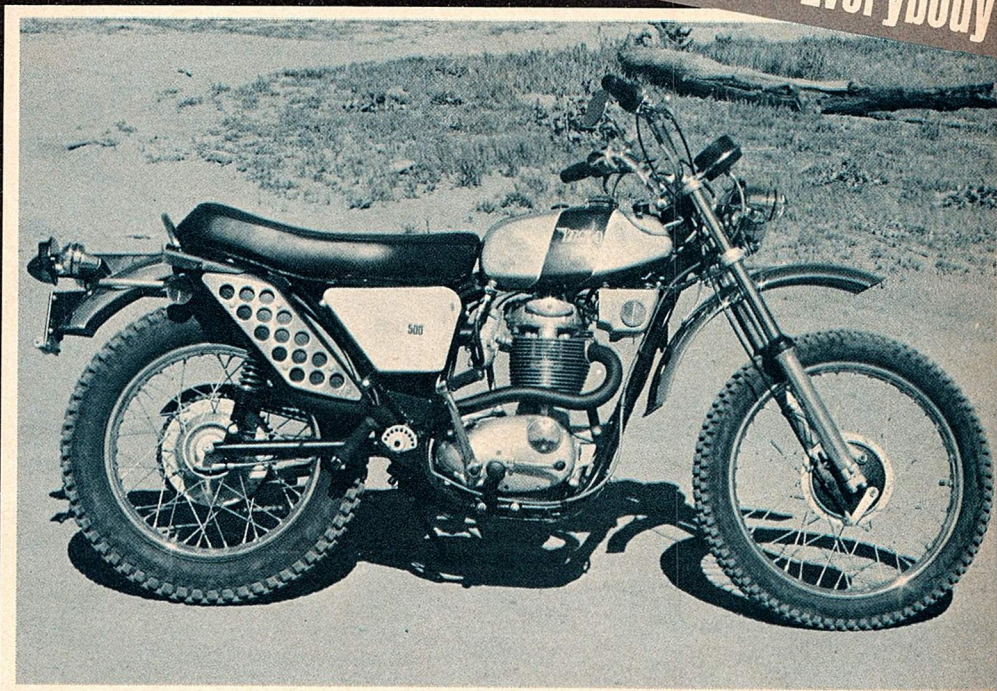
fork sliders support the front wheel and work on a pair of hard chrome plated steel stanchion tubes. The fork stanchions are clamped at the bottom and fit into the top triple clamp by matching tapers, they resist twist to a high degree.

Like the wheels, the frames of both bikes are the same; single down tubes that branch into two just before they make a turn under the engine cases. These black enameled frames are sturdy, carry the engine in the proper place for optimum weight distribution, and don't have any bad handling habits.

A long comfortable seat is fitted to the T model with the idea of making a place for another. Folding passenger footrests are also

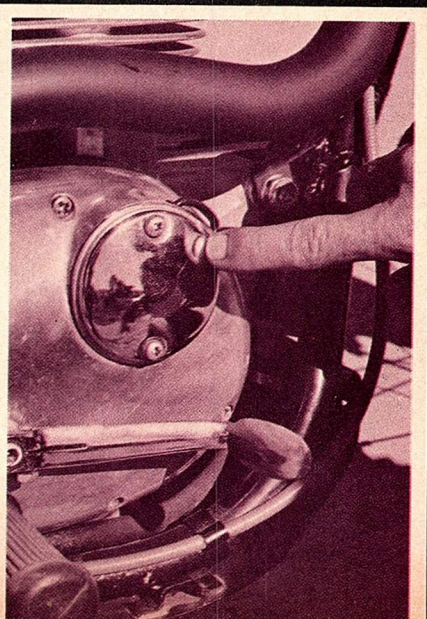


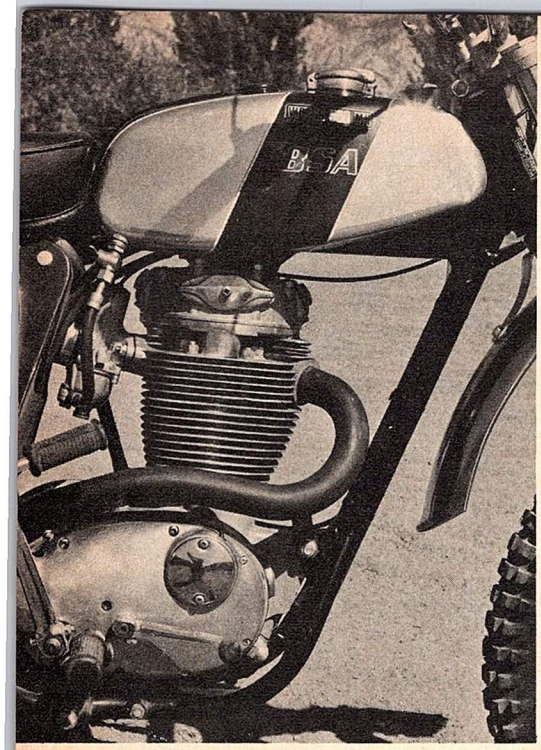
Something For Everybody



supplied and a grab rail is fastened behind the seat. You can take someone along if you want. The MXer has a short saddle for one guy.

These B50s are a take-off from the old GP moto cross machines used by the factory for chasing World Titles. There are a lot of similar things between them, one of which is the oil tank. The oil filler cap is found in the top frame tube just ahead of the fuel tank. The single large diameter tube is in the shape of an L and terminates down behind the engine. It's baffled however, and has a capacity of 3 quarts.





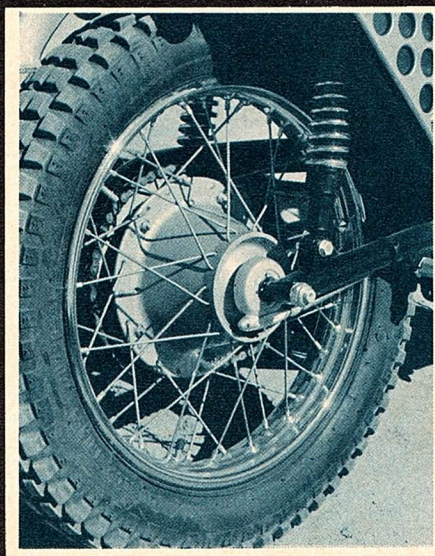
As a moto-crosser it may cut it on the right course with the proper jockey aboard. Four-stroke singles will chug through the mud better than the conventional two-strokes. The power band of the MX is quite broad and very torquey. The big single is a super hill climber and would make a nice trailer if its fuel capacity weren't so small.

On a hard bumpy moto cross race course we found it had power enough to run with the pack but the forks felt stiff. (Could be that a lighter fork oil would soften up the action.) You could turn it to the point of having the front wheel skate and still maintain control. A handlebar with less rise would

transfer more of the rider's weight to the front wheel and help it steer better. The rear Girdlings with progressive (70-100) springs fitted on the MX worked fine, the T model uses straight 100 pounders.

To take the Victor 500 Trail enduro riding you would have to do a whole bunch of unbolting. Once this chore is completed you'd have a nice competitive trail machine. Both transmissions are the same except for first. The T model's is a bit further down which makes the bike a fine stump puller.

We found the Trail version to weigh 60 pounds more than the MX. Other than all the obvious highway garbage the T model is equipped with a battery, coil, and alternator. (The MX uses a simple E.T. electrical system.) These electrics are well tucked away within the bike and are necessary for its operation.

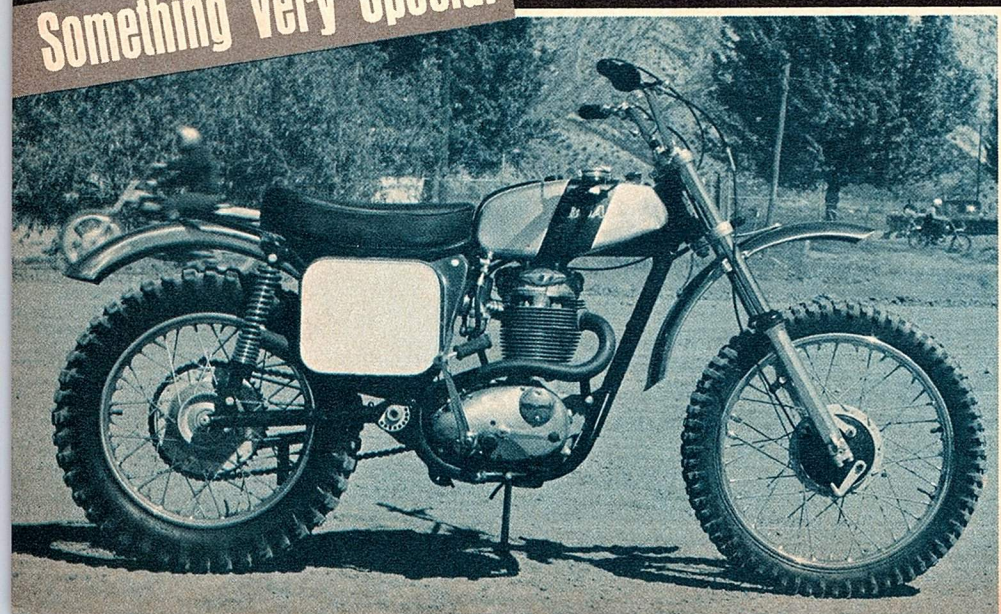


There is always a lot of conversation about starting a large displacement four-stroke single cylinder motorcycle. The fact that one lunge on a kick-start lever is supposed to force a huge piston through its compression stroke and then some is where the problem lies. Faced with this problem years ago somebody came up with the idea of raising the exhaust valve ever so slightly to let that compression out and make starting easier. It works, but the only problem is too many people refuse to believe it.

The secret of starting one of these singles is to stick to a certain system, and the system is simple. First, we find the compression stroke, that's when the lever gets hard to push. At this point we take the lever back to its top position, pull in the compression release and move the kickstarter lever down a full throw. Then, with the ignition on and the throttle opened just slightly, give it a mighty kick. Hot or cold this is the system, except a little carburetor tickling is necessary with a cold engine. After repeated use you will determine the exact throttle opening that's best for your bike, but generally it's somewhere between off and a third open. One thing about owning a single, not too many people are gonna ask to ride it if you insist they start it themselves. And if they can they

(Text continued on page 76)

Something Very Special



41



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TS-50—Only enduro-styled 50 you don't have to be a kid to ride.

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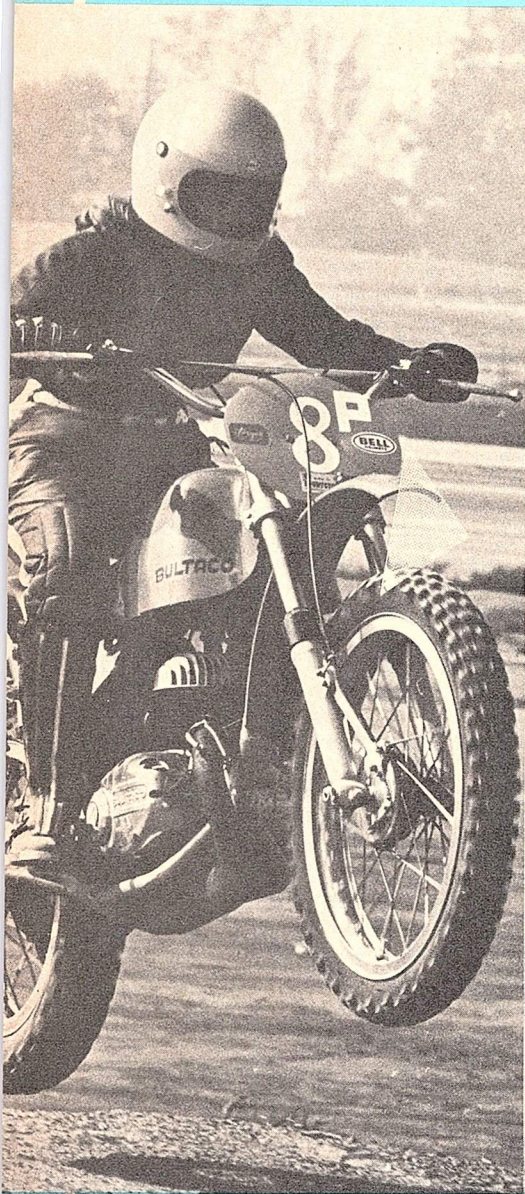
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MEET THE ASSOCIATE EDITOR



and taking in all she could learn about being a first class passenger on a motorcycle.

Jeanne has spent numerous hours on the back of motorcycles, in fact, you could call her an excellent "back-of-the-seat rider." Even taking a little snooze was nearly effortless after she learned to relax and enjoy the hum of the engine and the wind in her face. Jeanne recalls the longest trip that she ever took on a motorcycle was a two-week jaunt to visit a few National Parks. The trip took her through California, Nevada, Arizona, and Utah to such picturesque places as Bryce Canyon, Zion, Tahoe, Grand Canyon, and the old west town of Virginia City. Jeanne loved road riding although it created a lot of "frizzies" on her hair and a complexion like leather!

The first taste of off-road dust came when she became the executive secretary to the National Off Road Racing Association in 1967, their first year in existence.

When she first heard about NORRA and their fantastic plans to stage off-road racing in Baja, California, she just couldn't believe that a race of this type could really come true. Being able to work an off-road race outside of the United States became quite exciting for her. At the first Mexican 1000 she was flattered when she was chosen to be Miss STP. During all of her duties as secretary of registration and finish line scoring, Jeanne met our editor Dave Ekins and his brother Bud.

In 1968 NORRA was still young, but growing. Jeanne was trying to learn more and more about off-road motorcycles, dune buggies, and the four-wheel drive vehicles. The NORRA-Stardust 711 was staged during June of that year in Las Vegas. Again she was in charge of registration, meeting new people and even shaking hands with her long-time hero Steve McQueen. She was also able to rub elbows with such notables as James Garner, Scooter Patrick, Malcolm Smith, J. N. Roberts, and the fantastic duo of Larry Bergquist and Gary Preston. Jeanne met Sharon Ewing, a little desert flower, which helped her with registration and, later in the week they awarded the drivers

The Distaff Side of the Modern Cycle Staff.

Meet our associate editor, Jeanne Allen, and you will find that Jeanne is indeed a "real" person. As a native of Canoga Park, California, she has been active in outdoor sports all of her 25 years. Jeanne stands 5 feet tall, has brown hair and blue eyes, and for star gazers she is a hard headed Leo.

Jeanne's motorcycling interest first started at age 16 when a

friend asked her to a motorcycle club picnic. Her friend arrived bright and early on his speedy Honda Super Hawk and gave her an introduction to a safety helmet for the first time. After a full day of fun, games, and learning to lean into turns (not away), she returned home with a good case of fanny fatigue. Determined, Jeanne started attending the Honda Travelers' club meetings

and riders with their trophies and money at the awards presentation. It was a relatively quiet presentation until Lars Larsson came onto the stage. He decided to liven up the party by laying a real "heavy" kiss on Jeanne in front of the whole crowd! She turned practically purple.

Shortly after the NORRA-Stardust 711 Dave Ekins loaned her his son's Hodaka to try out. She liked it well enough that she soon had one of her own.

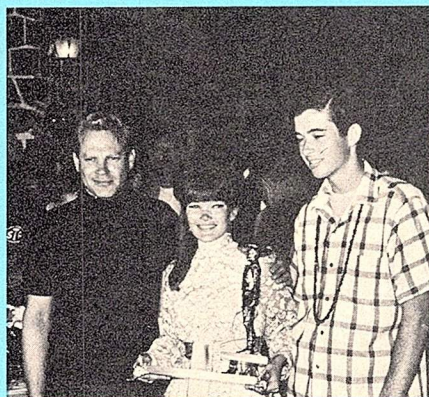
Lars Larsson was still somewhat in the picture. He would call Jeanne up once in awhile to see how she was doing on her new motorcycle. One day he stopped by her apartment with his brand-new van which had a newly painted sign on each side. The lettering said, "Torsten Hallman Racing, Inc." Inside the van was the biggest surprise for Jeanne. Lars said it was the very latest in fine motorcycles, a Penton Six-Day. He and Torsten were the distributors for this motorcycle at that time.

It didn't take long before Jeanne had acquired the third Penton in California, although it was the 100cc model. You could tell that it was one of the first, it didn't even have "Berkshire" printed on the gas tank yet. Jeanne started going to the desert even more by now. Unfortunately, she wasn't able to finish a desert race yet.

The 1968 Mexican 1000 was an even larger event with more entries, larger support crews, more publicity, and truly more work for Jeanne and the staff at NORRA. Once again she was chosen to be the race queen for the Mexican 1000. One of the new faces she met was Tony Nancy, a real die-hard drag racer. He was entered in the event with Don Prudhomme, another great drag racer, in a dune buggy sponsored by Steve McQueen's Solar Plastics. Tony was the general manager of Solar at that time along with operating his own business and Top Gas Dragster. Unfortunately, Tony and Don broke down in their dune buggy. (The press wrote it up as, "They only made it a quarter of a mile!") They did make it down the Baja trail a little further than that, but they broke early enough in the race to catch

a ride back to the Ensenada airport and take the NORRA charter flight to La Paz. Jeanne went to dinner with Tony in La Paz but wasn't really interested in him as a boy friend just then. She had possible plans of going to work for him at a later date when the NORRA business slowed down between races.

It wasn't long after the Mexican 1000 in '68 that Jeanne met up with Joel Robert and Marcel Wiertz at Bud Ekins' shop in Sherman Oaks. Joel took a certain interest in Jeanne because he had never met a girl that rode a moto cross machine in America. Joel then asked her to attend his moto cross school at Saddleback Park.



First place team of Whitey Martino and Steve Holladay receive their award from Jeanne at the Mexican 1000.

Jeanne had never tried moto cross before, and Joel could tell in just a glance. He felt that she would be killed in his class if she rode with all of the men. Joel spoke to Marcel in French and told him to take Jeanne to a different area that was less congested. Unable to speak or understand French, Jeanne didn't quite know what was going on. Joel told her to just follow Marcel for the day. She really tried her best and learned everything she could from Marcel. Marcel couldn't communicate with Jeanne, so he'd just hold up the amount of fingers for the correct gear she was to be in for the different terrain. Being the only girl with all those men was, needless to say, indeed exciting! The men respected her for having the guts to get out there and really try, and she appreciated all the helpful hints she was taught. Joel

took her around the Saddleback moto cross course on the back of his CZ after the school. Jeanne said that, "A ride with Joel can really get your blood moving!"

Jeanne started 1969 with the idea that Tony Nancy would make a better dating companion than a boss. Tony convinced her that to succeed in life one must have a good paying job. He knew that NORRA offered her a fair wage and a lot of fun times, but Tony thought that she would stay out of trouble by working for the Petersen Publishing Company.

Our associate editor started as a typist in the Advertising Administration office at Petersen. Six months later she was approached by Alex Xydias, publisher of Hot Rod Industry News. This was her big chance to learn everything she wanted to know about putting a magazine together.

torcycle, a Penton Six-Day 125, while she was working for Petersen that year. Although she really loved to ride her motorcycle, Petersen kept her busy during the day and Tony occupied her time in the evenings with dinners and shows. Jeanne still went to the desert now and then, and she finally met up with a few girls that were racing various types of events besides desert. The club called themselves the End Does Motorcycle Club, and this club was strictly for women only. It wasn't long before Jeanne was participating in the club's events and very shortly she was voted in as a member.

Since she was working for Petersen the word spread around pretty fast that the Mexican 1000 race was approaching. Jeanne asked Alex if she could have one week of her vacation a little early so that she could attend the rugged Baja event once more. To her surprise she did receive the time off. Ed Pearlman, president of NORRA, was also surprised and quickly signed her up to handle registration, finish line scoring, and, luckily, the trophy presentations with Linda Vaughan, Miss Hurst Golden Shifter.

Another new motorcycle entered into Jeanne's life in 1971. This time, because it was "cute," she chose a Bultaco Sherpa 100. She

(Text continued on page 58)

When a rider tackles an event such as the Mint 400, he must have a machine that is superbly prepared and the physical endurance of a superman. Even if he has this and much more, he needs one ingredient added to it to have any hope of winning. That ingredient is confidence; confidence in himself, his machine, and his co-rider, confidence with a capital "C."

Two riders had just that for this year's Mint 400 Desert Rally and they boldly stated before the race that they would be the victors. They were right. Rolf Tibblin and Bob Grossi had all the confidence in the world in their machine and themselves and walked off with first place money of \$6,000 to prove their point.

Sure, many teams were saying before the race that they would win, but it was nothing more than a self pep talk to try and instill a little more of the confidence they already lacked. Grossi and Tibblin *believed* they would do the trick, and it made all the difference at the end.

The big surprise to many that follow this type of racing was the fact that the two winners aren't recognized as being "desert racers." Their usual method of defeating the competition is in motocross events, similar indeed, but not as lengthy. The guys that usually win long distance desert races are long distance desert riders. Bob and Rolf can now add to that sentence, "But not always!"

So, you say, just what kind of an event is the annual Del Webb Desert Classic? Maybe it's not as tough as some desert races if a couple of those motocross riders can win it. Wanna bet?

The Mint 400 has been called by many the toughest off-road racing event in the world. Some say it's even tougher than the famous Baja races, some say it's not. No matter what you compare it to, everyone agrees that it's no "piece of cake."

This year's race, the fifth annual, consisted of six laps around a 46-mile course. As in years past, the race started and ended at the Mint Hotel Gun Club. Spaced out along the course are check



Beer can on bars was for checkpoint slips. They were dropped in the slot at each stop.

Photos by Dennis Greene

points, just to keep the riders honest. Every year the course is changed a bit to make it more interesting.

For the motorcycle rider's safety the four-wheel vehicles were separated from the bikes a few years back after running the Mint's first two events all together. The 400 is now a three-day spectacle, the bikes running the first day and the four-wheel entries running the remaining two. All entries pay a \$250 entry fee, regardless of their classification.

Terrain along the course is varied, with every type of hazard that you can imagine. About the only thing the course doesn't offer is water, a rare substance on the southern Nevada desert. What the course does offer is an abundance of rocks, silt, hills, and washouts, all waiting to take their toll on competitors not ready for them.

THE MINT 400

THERE'S A MINT AT
THE END OF
THE MINT

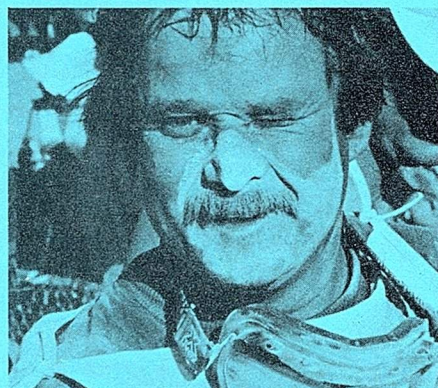


Most riders agreed that this year's Mint wasn't as rough as last year and that they were thankful for it. Last year's course looked as though it was laid out by some sadist, and it was near torture for the riders. Most riders like the challenge of a rugged course, but when it saps them of their racing spirit it's gone a little too far. Last year's race had that effect on many riders. This year the course was just about right.

Entries came from all over the country, with California being the best represented. Oregon also had a number of entries as did Nevada, Arizona, and Utah. One team came from as far away as New York State and another came from Alberta, Canada. With so many bucks up for grabs, it's no wonder that racers will travel from

all over to try and get a piece of the action.

Some teams even enter with little or no chance of even finishing in the money. They gladly pay their entry fee just for the prestige of riding the Mint. To them finishing is as good as a win. For the record, it's quite an accomplishment and one to be proud of.



As in many desert events, Huskys were chosen by more riders than any other brand in the '72 Mint. The Husqvarna namesake just seems to dominate the off-road scene. Yamaha too, is usually high in numbers. Both Husky and Yamaha had factory entries. Other popular brands were Penton, Kawasaki, DKW and CZ.

Past winners of the Mint were all entered in this year's race. J. N. Roberts and Max Switzer were riding a Husky and the team of Mike Patrick and Phil Bowers were on a Yamaha. Both teams were favorites to win it.

Most machines are equipped similarly as are the riders. Bikes must have lighting systems installed since many finish after dark. The lights are usually well protected by metal guards and heavily taped over during the daylight hours to keep them from breaking in the event of a spill or from a flying rock. Gas tanks are large capacity and seats have extra padding.

Most of the top bike's engines are assembled under conditions that would make a brain surgeon jealous. They have to be, or running for eight hours or so would be next to impossible for a box stock unit. A very minor flaw in a cylinder or piston would surely show itself after not too long a time in a race such as this one. Air cleaners are probably one of the most important items on the desert bikes.

Riders wear heavy boots and padded leather pants; some even strap shin and knee guards over those. Many riders tape their hands and put gloves on over the tape, some just use the gloves. Kidney belts are worn either under or over colorful jerseys and sweat-shirts. Full coverage helmets are a seldom seen item in this type of racing, but most competitors go for some sort of a mouth and chin guard as well as protective goggles. It all pays off in an endo out on the rocks.

This year the Mint had its share of freak accidents as well as a few of the common variety. We can always expect to see a broken collarbone or two when a rider unloads hard, but we can't always expect a helicopter crash.

This year it happened, but luckily no one was injured.

In the pits one unfortunate young man lost the tips of two fingers when he got his hand caught between the chain and sprocket on the bike he was working. Another rider was hit by a spectator's dune buggy and was literally knocked out of the race. Luckily his injuries were not too serious. Happily though, events like this aren't commonplace thanks to good race organization.

Racing is started in waves of four riders, each wave a minute apart. It takes about a half-hour to get all the entries going, but they're all underway by the time the lead bike gets back to the pits. All checkpoints have radio communication so if a rider is having problems out on the course he can get a message to his pit crew, who will either go out on the course to help him or wait until he gets back to the pits and have the necessary parts ready to go.

Rich Thorwaldson and John DeSoto got off to a strong start as did Patrick and Bowers and Silverthorne and Fetty. J. N. Roberts actually led into the pits after lap one, even though he wasn't the race leader at that point. It was Thorwaldson and DeSoto that everybody had their eyes on.

Both were circulating around like they were on rails and the 400 Suzuki wasn't missing a single beat. People were starting to wonder whether or not they could pull off the big win. Towards the end of the fifth lap their luck went sour, the rear tire had come apart. That plus an unplanned stop for gasoline ruined any chance of finishing in the top spots. Final position was listed as fifth.

By this time Roberts and Switzer were the leaders. It looked very good for them to win another big one. Two other teams were close but not close enough to win without something happening to J. N. and Max. Well, it finally happened.

A rear axle nut came off along with the chain, it was enough to lose it for them. By the time it was fixed they were in third, and that's the spot they wound up in. As past winners, their luck was better than the other former win-

ners, Bowers and Patrick. The Yamaha pair had the misfortune of hitting a rock with their shift lever, and that put them out of the race completely on the fourth lap.

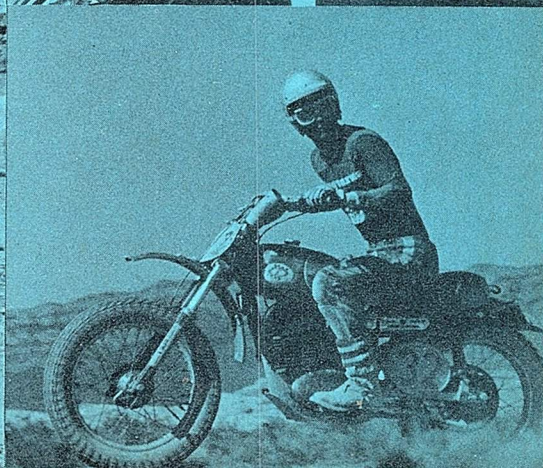
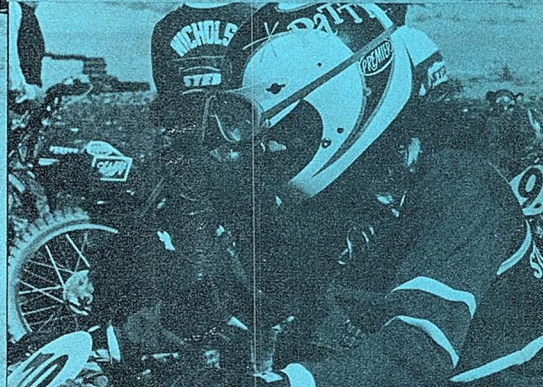
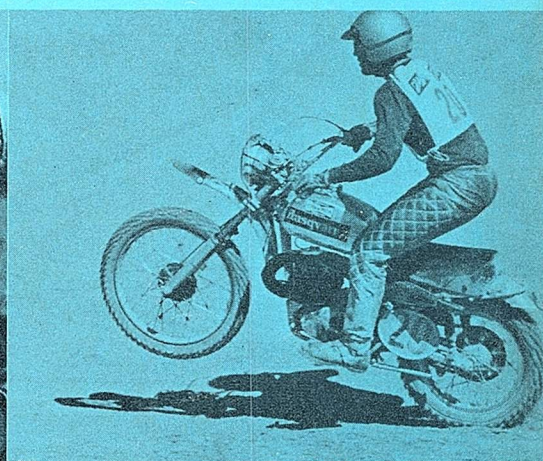
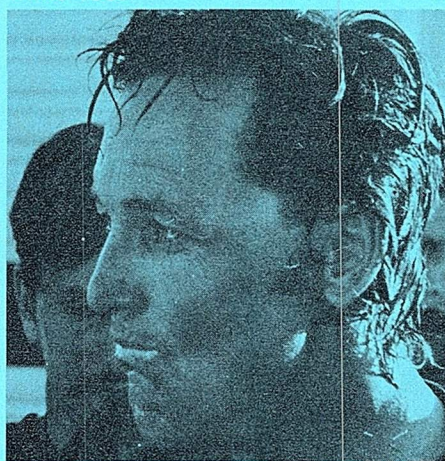
Always a tough team to beat, Silverthorne and Fetty couldn't quite catch the flying motocrossers, although they tried. They got second, and you can't complain too loudly about finishing that high up. It was quite a ride that they turned in.

So Tibblin, the motocross champ from Sweden and Grossi, the fun loving young man from California, pulled off one of the biggest races of their lives. They had a fantastic running Husky, they had the talent and ability, and oh yes, confidence with a capital "C." That's what it took to win the Mint 400.

**MINT 400
LAS VEGAS, NEVADA
MARCH 19, 1972**

— RESULTS —

1. Rolf Tibblin/Bob Grossi
7:26:26 HUS 400 \$6000
2. Bill Silverthorne/Gene Fetty
7:33:22 HUS 400
3. J. N. Roberts/Max Switzer
7:47:59 HUS 450
4. Malcolm Smith/Mark Blackwell
7:51:19 HUS 250
5. Rich Thorwaldson/John DeSoto
8:02:49 SUZ 400
6. Mickey Quade/Mike Harper
8:04:00 YAM 250
7. Bud Feldcamp/Dick Kendall
8:06:30 HUS 400
8. Larry Bergquist/Gary Griffin
8:09:06 BUL 250
9. Don Fuller/Jerry Davis
8:13:00 YAM 250
10. Danny Davis/Bobby Davidson
PEN 125 \$1150





Finally.

An 80cc bike with some guts.

The new familyweight ST80. From Chaparral.

The ST80 is more than a new bike. It's a whole new idea. The first bike designed and built for a family. So, we call it the familyweight.

Dad, this means the end of trying to ride a junior minibike with your knees up around your ears. Or, spending the day holding your 250 back so the family can keep up.

Mom, here's a bike you can feel comfortable on. If the little ones were always too little, and the big ones were always too big, welcome to the ST80.

The kids. Well, they'll just plain love it.

Our family of familyweights also includes the T80—a tough trail-ready machine identical to the ST80, but without the lights, horn and speedometer package.

And the T172 with a churning 4-cycle 172cc engine and shift eliminating torque converter.

The familyweights. ST80. T80. And T172. From Chaparral.

A whole new idea in bikes. For your family.

CHAPARRAL
minicycles / snowmobiles / bicycles

Bavarian Motor Works has been manufacturing motorcycles for a long, long time, about 46 years. We recognize them as the big horizontal opposed twins that are smooth, quiet, and run forever. We're not sure if BMW originated the opposed twin idea in motorcycles, we do know they have been building this configuration since 1923.

The basic layout has tremendous advantages as opposed to one disadvantage. Motorcycle-dom's reason for popularity is its

ability to go where automobiles can't. The width of the BMW, the distance from cylinder head to cylinder head, is the largest in the industry. You just can't squeeze it through those tight, narrow places as readily as with other motorcycles.

The reason for hanging them out there is cooling and a lower center of gravity. These two factors result in handling and reliability. In fact, the cast iron lined aluminum cylinders run so cool piston clearance is just a hair over .001 of an inch. That's unheard of for an air-cooled engine with a bore of 82mm. But BMW has refined and improved so much

over the years that their reputation for reliability is unequalled.

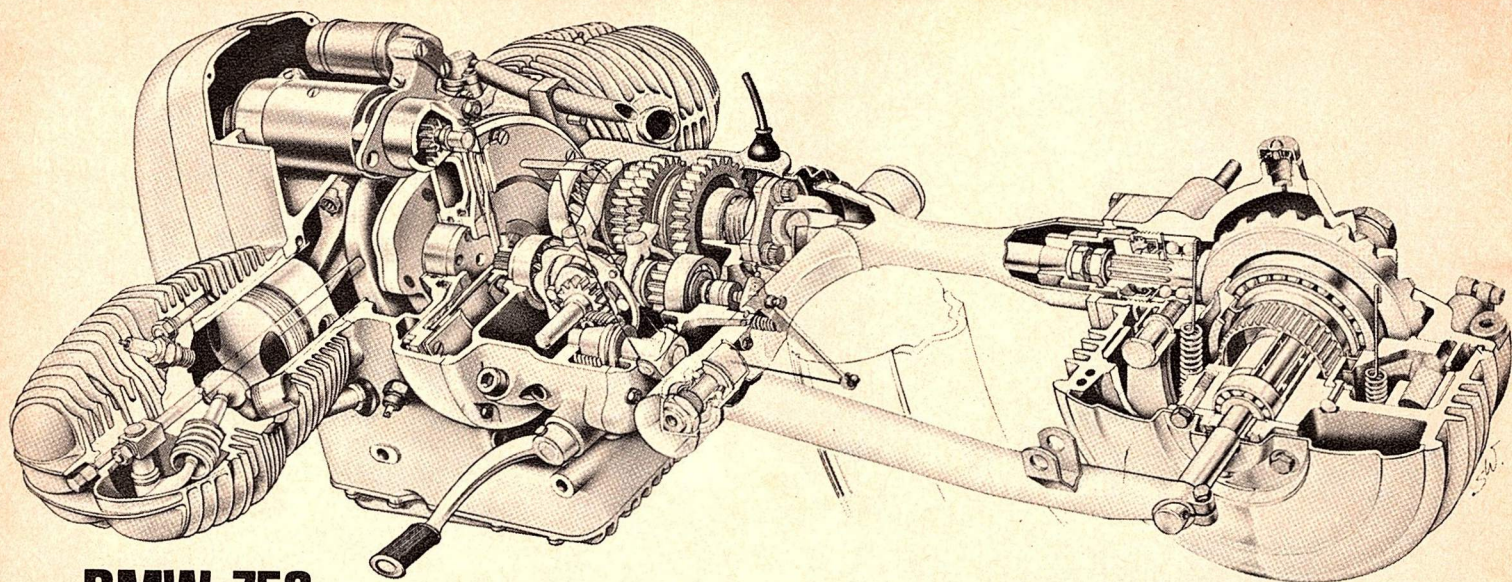
Our test machine is the very latest, biggest, strongest, and best BMW offered to the public. Approaching its third year since the deletion of the Earles-type front fork, high mounted camshaft, and sidecar mounting lugs, BMW has changed its European image as a sidecar hauler to one of a high performance solo sports bike. The machine went through a complete redesign dropping nearly 50 pounds in the process while adding an electric starter and 150cc's to make the 600 a 750.

When they decided to build this latest generation BMW their only

THE BMW R75/5

Could it be the World's
Best Touring Machine?





BMW 750

carry-over from the past was a 180 degree horizontal opposed engine, shaft drive, and a blue and white BMW emblem. The heart of the engine is a one-piece drop forged crankshaft. It uses plain bearings throughout, and the connecting rods have caps very much like the automobile's. A flywheel with a starter gear is attached, and power is transmitted through a single dry clutch plate whose lining is bonded instead of the previously riveted-type. Crankshaft throws are 180 degrees apart therefore the pistons travel up and down their cylinders together. This causes a lot of pressures and vacuums within the crankcase so the engine is fitted with a timed breather that vents into the right hand inlet upstream of the carburetor. The crankshaft runs in a near-vacuum atmosphere which is one of the reasons you don't see even the slightest of oil seepage from these engines.

The R75/5 stores its oil in a sump well below the whirling cam and crankshaft. An oil pump that looks like a miniature Wankel engine runs at half engine speed and circulates 200 gallons per hour at 6,000 rpm. Oil is fed to the overhead valve system through pressure to the rocker arm fulcrums and returns back to the sump down the pushrod tubes.

Earlier BMW designs had angled the valves at 90 degrees which requires a high dome piston in order to arrive at a reasonable compression ratio. The R75/5's included valve angle is 60 degrees

and the piston is far less domed resulting in a stronger and lighter slug.

Camshaft location has been moved under the crankshaft for several reasons. It gets better lubrication down there, its weight is lower, and now there is room for an electric starter up top. The starter motor could come right out of an automobile, it's driven by a 12-volt, 15 amp battery and there is an electric safety device that will not allow the starter to engage whilst the engine is running.

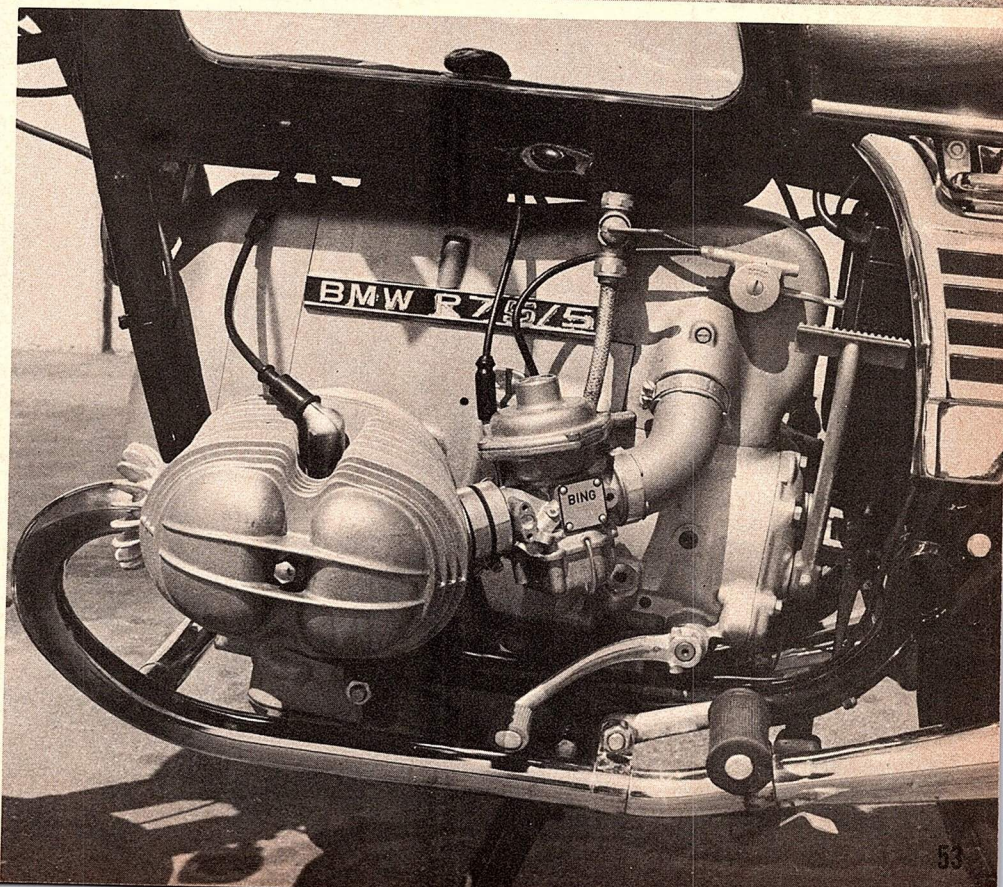
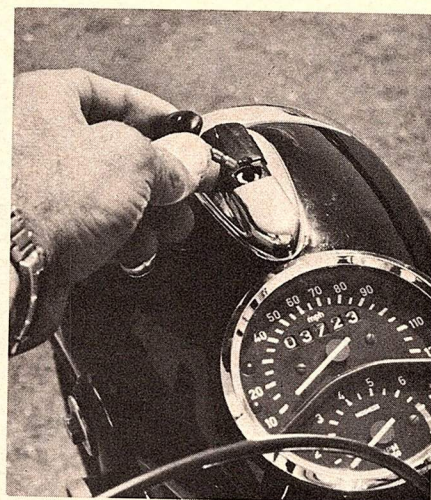
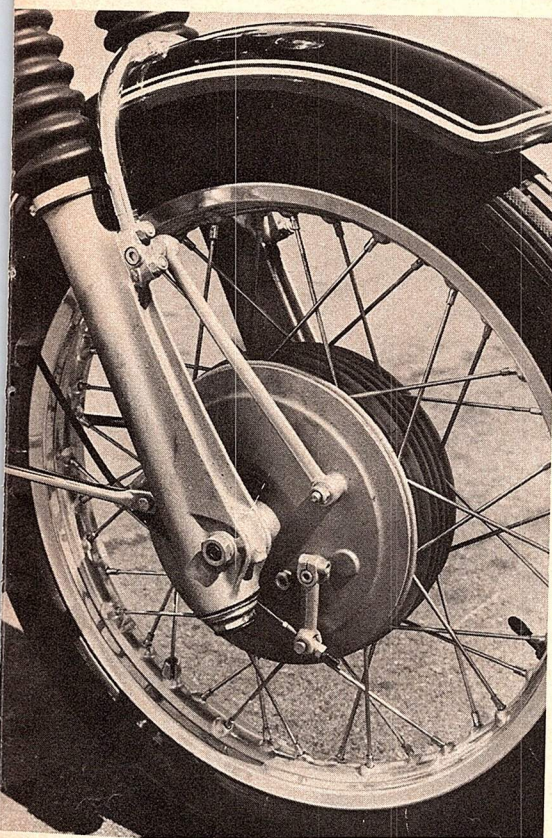
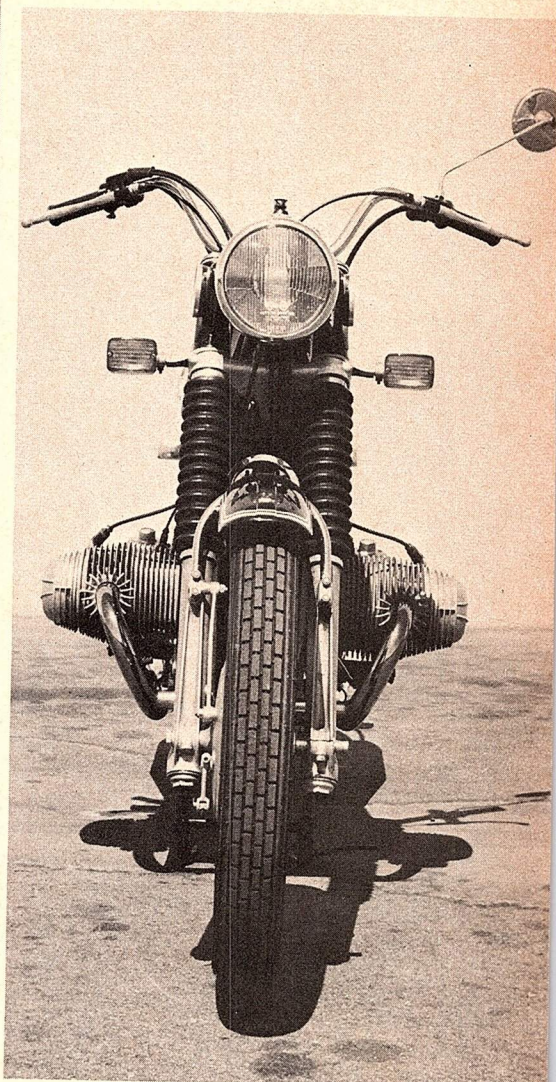
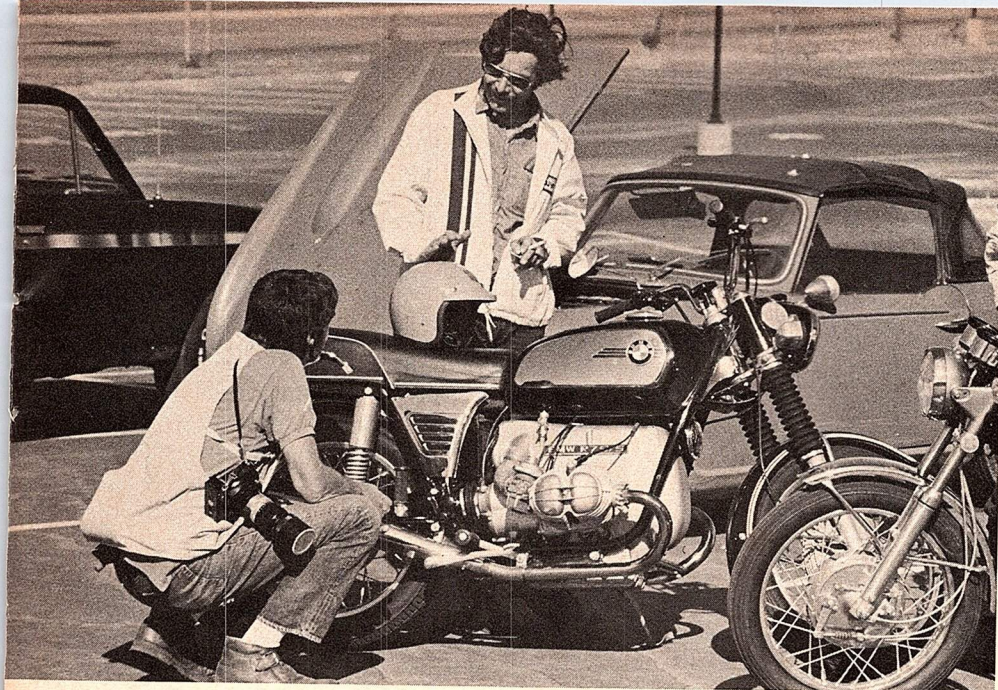
A 12-volt three-phase alternator is driven off the front of the crankshaft and hides behind a massive alloy cover. Two 6-volt high tension coils live under the fuel tank and they are hooked up in series. This is supposed to draw less current than one 12-volt coil and still spew out gobs of blue electricity.

BMW's transmission is robust and automotive like. For the R75/5 both 2nd and 3rd gear have been increased in tooth width by nearly 100%. They use sliding dogs to engage the gears operated from a cam plate. The new models have gone from 6 dogs to 7 and cut a 10 degree relief on each dog for quicker and easier gear engagement. The throw of the shifter is short and it still makes the clunk when going into gear that BMW's are noted for. The mainshaft of the gearbox has fixed gears and rides on ball bearings at both ends. The output shaft also rides on ball bearings and the gears are bushed. In operation,

transmission oil is thrown up into a catch trough located in the end plate of the gearbox. This oil fills the hollow output shaft and lubricates the bushings through drilled holes. Very clever these Germans.

A drive shaft has to have a universal joint and the BMW's is attached to the output shaft. This drive shaft is housed in the right hand swing arm tube and is mounted on a huge set of bearings and fits into the rear hub with splines. The swing arm pivots on a set of Timken tapered bearings that can be adjusted to center the swing arm in the frame. If you stand back and look at the bike in profile you will notice the engine is canted back towards the center of the rear hub. When you sit on the bike the rear suspension compresses allowing the swing arm to come into nearly the same plane as the engine. What you're seeing is a straight line from the output shaft to the pinion gear, and very little deflection of the universal joint. In a sense, the less movement a universal joint has to make, the more energy can be put to the rear wheel.

The rear wheel comes off quickly by removing a single axle. A large spacer drops out and the wheel can be pulled from its spline leaving the driving gear and braking mechanism in tact. Both wheels use full width hubs and straight pull spokes. Rims are aluminum with several notches in their bead. These notches are there to keep the tire from jumping off the rim in case your tire goes flat while



in motion. Both wheels are electronically balanced and use S rated tires. An S tire is one rated at 90 mph travel for indefinite periods of time. Other ratings are H for 130 mph and V for 150 mph. This is a carry-over from sporty cars and a good idea. What other motorcycle manufacturers rate their tires?

Conventional expanding shoe in drum brakes are used on the BMWs. These have a special lining that works better the hotter, or more use, they get. We experienced absolutely no brake fade while twisting through the mountains packing double. When cold, or normal city driving, the binders have a hard feel, especially the rear brake which has a single leading shoe. The front is a double leading shoe-type that takes less pressure to make it work.

All control cables on a BMW are thoroughly waterproof utilizing molded rubber, dust covers. In addition, the outer cable is nylon lined for a smoother pull. The two

handlebar levers are also nylon bushed in their fulcrums and each have a spring washer to keep the lever from rattling.

BMW's exclusive throttle uses a set of gears, two cables, a cam, and a chain. The chain wraps around a progressive cam; as the throttle is opened the slides move up more slowly at first then increase their rate of travel. The R75/5 uses constant vacuum Bing carburetors so it operates two butterflies and the venturi varies its size as the engine demands. (R50/5 and R60/5 BMWs use the conventional Bing slide-type carburetors and have a more progressive cam in the throttle linkage.) An adjustable drag or brake is attached to the throttle housing so you can set the throttle and not have it close on you by spring pressure.

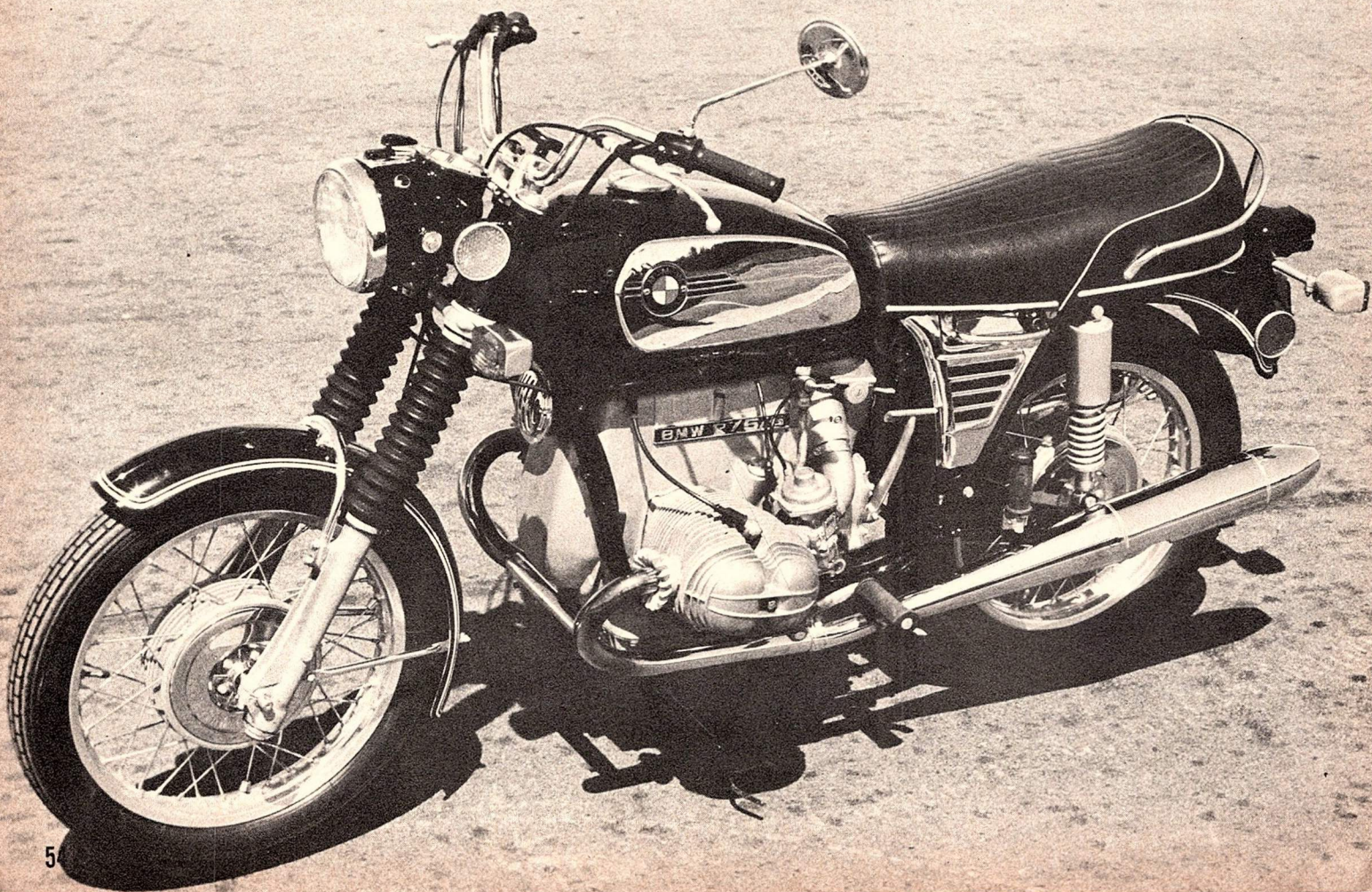
Suspension and handling of the R75/5 is excellent. The forks have 8½ inches of travel that is hydraulically damped both on the up and down strokes and at the top and

bottom extremes. Rubber boots protect the fork stanchions and have breather holes incorporated in the bottom triple clamps. These fork boots no longer have the vent holes to take in and trap water as the older ones did.

Steering head bearings are Timken taper and the frame head itself is cross braced and gusseted to the double loop tubular frame. The two down tubes start at a much larger diameter where it is needed at the steering head weldment and taper to a smaller constant diameter for the rest of its journey around the engine cases. A large diameter single top tube is used, one that will not take too much area from the saddle of the gas tank. The rear section of the frame is simply bolted on in 4 places although it is a separate welded assembly. The seat mounts on this subframe and locks in with the same key that locks the forks. Under the seat is a water/dust-proof tool and glove box that

(Text continued on page 62)

BMW 750 TEST



MAKE BMW

MODEL 750cc R75 5

PRICE AS TESTED \$2,095.00 F.O.B.

MAXIMUM SPEED AS GEARED 110 mph

WEIGHT 450 lbs. WET

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ENGINE

Engine Type **OPPOSED TWIN, 4-STROKE**
Bore **82mm**
Stroke **70.6mm**
Displacement **745cc**
Compression Ratio **9.0:1**
B.H.P. at R.P.M. **56 AT 6,200**
Carburetor **(2) BING VACUUM**
Ignition **BATTERY AND COIL**
Starting System **ELECTRIC AND KICK**
Lubricating System **ROTARY OIL PUMP**

FUEL AND OIL

Oil Capacity **2 QUARTS**
Oil Recommended **20/50 WEIGHT**
Fuel Capacity **4.2 GALLONS**
Fuel Recommended **PREMIUM**
Approximate mpg **42**

FILTERING SYSTEMS

Air **MICRONIC PAPER**
Oil **MICRONIC PAPER**
Fuel **WIRE MESH SCREEN**

FRAME

Frame Type **DOUBLE DOWN TUBE CRADLE**
Weight Distribution **FRONT: 45%, REAR: 55%**
Wheelbase **56 INCHES**
Ground Clearance **8 INCHES**
Peg Height **13 INCHES**
Seat Height **33 INCHES**
Handlebar Width **29.5 INCHES**

SUSPENSION-TYPE

Front **TELEDRAULIC**
Rear **SWING ARM**

SUSPENSION-TRAVEL

Front **8.5 INCHES**
Rear **4.9 INCHES**

West: 135 E. Stanley St. Compton, Calif. 90220

DRIVE TRAIN

Clutch Type **SINGLE PLATE, DRY**
Primary Drive **SHAFT**
Countershaft Sprocket **N.A.**
Final Sprocket **N.A.**
Final Drive **SHAFT AND RING/PINION**
Gear Ratios **Internal Overall**
1st **3.896 12.44:1**
2nd **2.578 8.22:1**
3rd **1.875 5.88:1**
4th **1.500 4.8 :1**

TIRES AND WHEELS

Front **3.25x19 RIBBED**
Rear **4.00x18 ROAD BLOCK**

IMPRESSIONS

	Poor	Good	Excellent
Throttle Response			●
Acceleration			●
Power Band			●
Starting			●
Engine Noise			●
Muffling db (A)			74.5
Vibration			●
Handling			●
Choice of Tires			●
Suspension			●
Rider Comfort			●
Transmission		●	
Instrumentation			●
Lighting			●
Toolkit			●
Paint and Chrome			●
Styling		●	
Mileage		●	
Braking			●

New continued

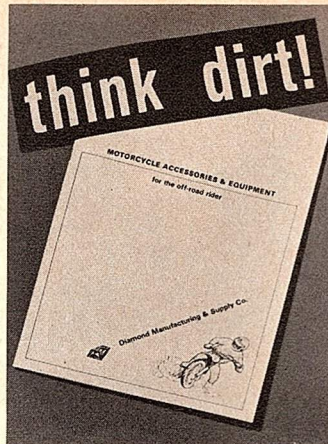
buretor is a brand new Weber two-barrel reworked for Harley-Davidson Shovelheads and Sportsters. All units are assembled and checked by top Weber experts, using tuned jets, needle and seat specifically designed for Harley-Davidsons.

The manifold bolts right to the stock engine and is precision cast and machined of aluminum. All gaskets, nuts, bolts, and brass washers are included.

The carburetor retail is \$129.00 F.O.B. Anaheim, and the manifold retails for \$39.50. For further information you may write to, Wheel Specialties, 2131 South Dupont Drive, Dept. MC, Anaheim, California 92806. Dealer inquiries are invited.

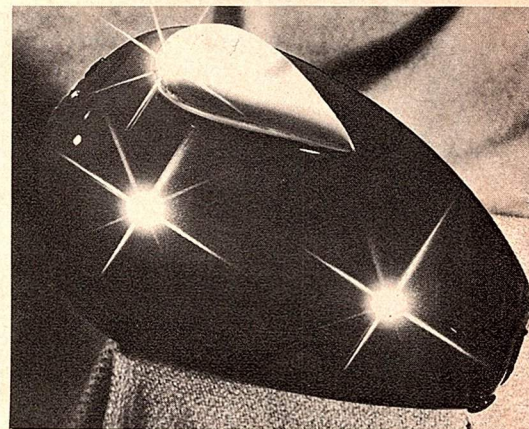
"DIRTY" CATALOG

Diamond Manufacturing is now offering a new catalog of accessories and equipment for the off-



road rider. Featured are a broad line of tuned, silenced exhaust systems, high performance expansion chambers, plastic fenders, handlebars, fork braces, competition air cleaners, boots, goggles, and many hard-to-find specialty items for the dirt riders. All products are stocked and available for immediate shipment.

Included free with each catalog is a colorful "think dirt" bumper strip. The catalog is available for \$1.00 postpaid, from, Diamond Manufacturing, 735 East 12th Street, Dept. R-29, Los Angeles, California 90021.



PEANUT TANK

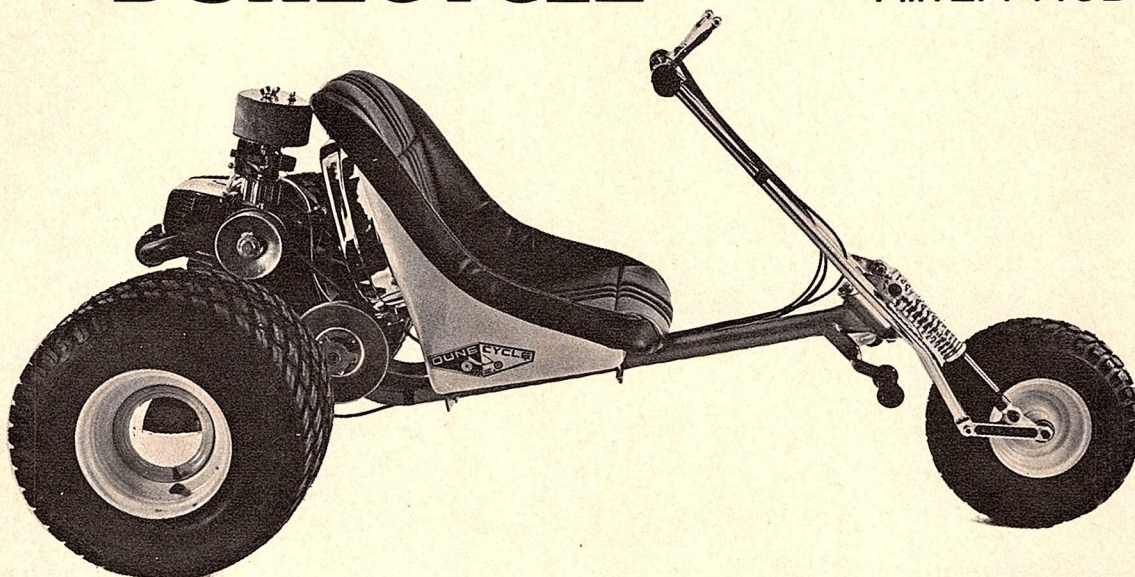
New from Avanti R&D is an all-steel peanut style tank designed for easy installation on all motorcycles, with the exception of 1971-72 BSA and Triumph models.

The unit is furnished complete with mounting tabs, and has a black primer coat ready for finish painting. For further information please contact, Avanti Research & Development, Inc., 33 West Fullerton, Dept. MC, Addison, Illinois 60101.

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AND GET THE REST FREE
FROM A.P.E. PRODUCTS



1 Year warranty on engine, 90 days on the rest/full seat cushion, 3 1/2" thick/proven "T" bone frame/heat treated 4130 axles/heat treated jack shaft and sprocket/split axles for easy maintenance/differential with dual brakes/adjustable brake levers/torque converter transmission/twist grip throttle/handle bar kill switch/small and light enough to put 4 in a van, 2 in a station wagon or one on your V.W./strong enough for the biggest of men/foot pegs mounted on the frame/first on the market/winners of the N.A.T.V.A., W.A.T.V.A., T.R.A., A.T.A., M.B.E.R.A. and N.R.V.R.A. nationals/driven from Pontiac, Michigan to Los Angeles, California for proven dependability/parts always available/accessories for go and show/7 Models to choose from/from 3 HP. to 14 H.P./write for more information. Enclose 25¢ for complete information.

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Dealer inquiries invited.

The motorcycle thief comes in many forms. There's the professional who makes a lucrative operation out of ripping-off two wheelers. At the other end of the spectrum is the thief, usually a youngster, who takes the bike for a few hours of joy riding. Motorcycle theft, regardless of the motive of the thief, is a major problem.

It's been said, with some truth, that nothing is really safe if the thief is really determined. Security measures for motorcycles range from the very simple (chaining the bike to a lamp post), to the very sophisticated. The subject of this Product Evaluation falls in the latter category. It is a very advanced theft-prevention system.

The Cycle-Gard is a solid state electronic device that very effectively warns the motorcycle owner of attempts to steal his machine. There are two Cycle-Gard models. We examined the more sophisticated, and more expensive, of the pair: The Cycle-Gard 2. This device has been designed for use on motorcycles, trail bikes, and mini-bikes. When mounted on the rear fender license plate bracket of a street bike, the Cycle-Gard 2 blends in well with the overall design of the machine. The license plate is installed directly on the Cycle-Gard body.

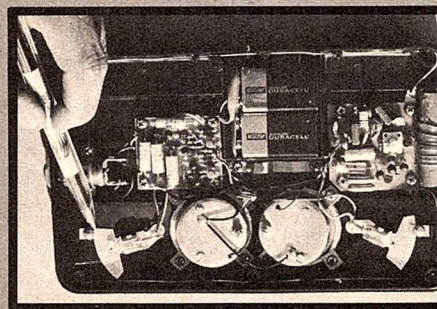
The Cycle-Gard 2 is completely self-contained and does not rely on the motorcycle's electrical system since it carries its own batteries inside an ABS Cyclac high-impact-resistant case. The unit is virtually tamperproof and cannot, do to its design, be deactivated or foamed out of operation by a would-be thief.

The warning system is activated by a quarter-turn of a key. The key is then removed and the alarm is ready to sound if the bike is disturbed in any way. The alarm sounds as soon as a motion-sensitive switch detects movement. The result is an intermittent, raucous (115 decibels at 1 foot) blast of sound that will bring attention to the would-be thief and his activity. If the motorcycle is accidentally disturbed, the alarm will sound for 30 to 45 seconds and then shut itself off to await the next movement of the machine.

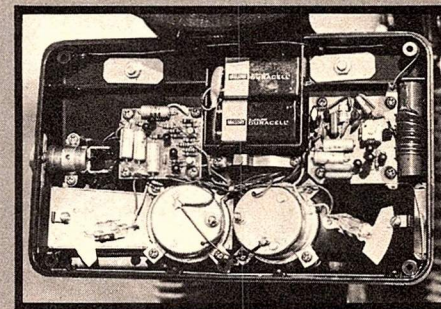


PRODUCT EVALUATION: THE CYCLE-GARD 2

Modern Cycle Examines a Device Designed to Frustrate the Rip-Off Artist.



The location of the mercury switches can be altered to vary the sensitivity of the unit.



Solid state circuitry and excellent basic design protect the unit from vibration.

Incorporated in the design of the Cycle-Gard is a radio signal transmitter. Activation of the alarm will simultaneously cause the transmitter to send out a signal which is picked up by a pocket receiver about the size of a pack of cigarettes. This signal alerts the owner to the fact that someone is tampering with his bike, even though he may be out of sight of the machine. The effective range is 500 feet, but we found that under optimum conditions the receiver would pick up the signal up to 1,500 feet away from the transmitter. The Cycle-Gard 2 comes complete with the pocket receiver and a 110-V battery charger stand. Batteries and complete mounting hardware are furnished with the package.

The Cycle-Gard 2 is, in our estimation, a quality anti-theft device that should do much to add to the peace of mind of the bike owner

who is concerned about the safety of his machine. Much thought has gone into the basic design and construction of the unit and this is apparent in the end result. Our opinion of the device is substantiated by several insurance companies that underwrite motorcycle coverage. Some firms have already approved reduced premiums for bikes equipped with devices such as the Cycle-Gard 2.

The Cycle-Gard 2 is not inexpensive. At \$89.95 it will represent a substantial investment on the part of the motorcycle owner. After examining the unit closely and trying to "outwit" it we feel that it is well worth the investment. Further information on this anti-theft device can be obtained by writing to: Cycle-Gard, Security Products Division of Alcotronics, Church Road and Roland Avenue, Mt. Laurel, New Jersey 08057. ●

The Distaff Modern Cycle

decided on a 100cc this time hoping that she would be able to return to the desert. This never happened the entire year, with the exception of the Four Aces Grand Prix held at Willow Springs. During this year her time was devoted to more and more moto

cross events, although Jeanne still attended the drag races whenever Tony would race his car. Her best showing in an off-road event was the Optomist Club Combo X with a fifth place overall in the Powder Puff class.

In September of 1971 Jeanne



During the first 3 years of the Mexican 1000, driver/rider registration was one of Jeanne's important jobs.

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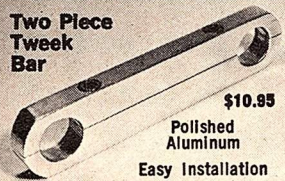


joined our staff here at *Modern Cycle Magazine* as an associate editor. Upon arriving to work her first day away from a hot rod oriented magazine she hung up a sign over her desk that reads, "Think Motorcycle!" She's been doing just that ever since. Being the gung-ho Powder Puffer that she is, Jeanne purchased her 5th two-wheeled machine, a 125cc Bultaco Pursang because it is a "serious racer." Perhaps someday Jeanne will be just as serious about racing, but until then, she's having a good time. If you're a girl that enjoys motorcycling, read Jeanne's "Powder Puff Power," it's her own "thing." The Powder Puffers are here to stay! ●

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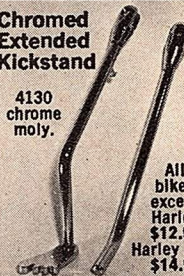
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Dear Sirs:

I am having a problem with my '71 Kawasaki 250 (F8). Under hard acceleration it misses at around 5,000 rpms. The problem also occurs while cruising the bike down the highway at the same rpm. If I let up on the throttle it seems to run right. I have checked the ignition coil, tried different heat range plugs and jets. It seems the fuel flow is restricted somewhere. I have checked the fuel filter screen and everything else connected with the flow. I know several people have the same problem. Any advice would be a great help. I think your magazine is a great help to motorcyclists.

Byron Kashiwamura
Las Vegas, Nevada

As I understand it the E gap on the F8 ignition systems are very critical. If you've replaced the points or moved the ignition backing plate you will have a missing-type problem. If you turn the lights on the problem gets worse, or the battery is dead or internally shorted, then excess power from the ignition system is pulled into the other circuit. Correct location of the backing plate should be done by your local dealer. Before you get involved with all this try cleaning your air filter. Then, check the two breather holes in the bottom of the carburetor cover and make sure they are not plugged up. Most likely your problem is a simple one.

Dear Sir:

A friend of mine and I recently had an argument over rear brake torque arm length and mounting point as applied to rear shock loading on a moto cross bike. (i.e. Ossa.) We agreed that a floating backing plate with a torque arm mounted to the frame is the best arrangement. But are there advantages to mounting the torque arm in different places on the backing plate and swing arm? If so, what is the optimum arrangement?

Dan Zlock

Excluding the floating backing plate and keeping the conversation to the conventional-type, it doesn't matter how the backing plate is fastened to the swing arm as long as sound engineering practices are used. The end result will always be the same.

Gentlemen:

I own a Harley 250 which has been literally plagued with electrical problems. I have replaced everything except the battery and generator (which checked out okay on the meter).

Can you think of anything I might have overlooked? I am quite certain the erratic missing that sometimes happens is not fuel or air cleaner problems. If you can't help, please give the address(es) of anyone who offers a C.D.I. system for my bike.

Tom Dovorany
Racine, Wisconsin

P.S. I am a fairly new reader of your magazine, and I like what I see so far.

I think you're looking for an excuse to install a C.D.I.-type ignition on your machine. There are a bunch of units such as the Sydmur solid state discharge ignition system that will fit into your current bike. Erratic missing as you say is generally mid-range carburetion on those high performance 250cc H-D singles. Check it out, then try some hot ignition.

Dear Friends:

I am about to buy a new 1972 Triumph Bonneville in London. I have heard that the air filter on this bike will pass anything smaller than a golf ball. Is that true? If so, how will it hurt performance and what can be done about it by the dealer or myself?

Actually, I've heard that the Bonneville is pretty dependable. I plan to tour England and France and then ship the bike home. Anything else I should be warned about? Thanks for your help.

Cary Harkaway
Endicott, New York

The only thing I can suggest is to refrain from riding near golf courses. Actually, the air filter on the Triumph is good enough as long as you remain on the highway.

Dear Sirs:

I have heard that there is a way of wiring my Honda from off the alternator instead of off the battery.

I do a lot of riding off the road, and have often thought how much trouble a person could have if the battery went dead, or came up with a short.

Don Kragt
Billings, Montana

Wish you would have told us which model Honda you have Don, some have magnetos and will run all day without a battery. There is a way to re-wind the alternator and eliminate the battery, but I hate to recommend it. This system does not work at low engine speeds and starting is a pain.

Dear Sirs:

I own a TS125 Suzuki and would like to set it up for moto cross. Would the stock porting with an expansion chamber (Hooker?), and higher compression be better for moto cross than the Suzuki hop-up equipment? If so, how high should the compression be and how can it be increased?

Any other suggestions would be appreciated. You build a great mag!

D. Foss
Jordan, Minnesota

You'll have to go a long ways before you can do better than original Suzuki hop-up pieces. You're better off to pass on all that Mickey Mouse stuff.

Dear Sirs:

I presently own a Bultaco 200 and I would like to know if anybody makes a 3.75x18 full knobby for the rear of my bike. As of right now I have a 3.50x18 Dunlop Trials on the rear. This is not enough tire for the sand, as we belong to a bugg and bike club and usually wherever we go there is some sand.

Although I have never had either of these on my bike I think a 4.00 knobby would be too much and a 3.50 knobby not enough. Thank you for answering my letter.

Curtis Tate
Costa Mesa, California

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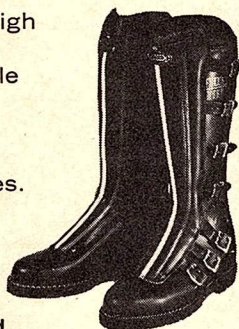
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up on the pegs

DAVE EKINS

A LITTLE OF THIS AND THAT

We, like all other publications, are very proud of our motorcycle test features. We put the motorcycles through the same uses an owner would (or should?), noting what happened, what goes on, and why. The final page of each test feature is devoted to facts and figures of particular interest to the reader, we think. In a prominent spot is the weight of that machine.

This particular item, called WEIGHT, has from time to time prompted phone calls and letters which proves to us that people do read our book. For some reason people are all ga-ga about weight. Within reason motorcycles weigh anywhere from 150 pounds to 550 pounds. They are used for a jillion different reasons and come in a hundred different sizes. With all this in view some people equate weight much the same as horsepower with ad agencies going ape about printing figures that don't quite compute.

In our facilities at *Modern Cycle* we have a certified balanced beam platform scale. When we take delivery of a test machine from a distributor or importer the first thing we do is weigh it. We weigh it WET, just the way it was delivered for testing purposes. And that's the way you ride 'em, wet. The fuel in the gas tank will vary from half to full and that's the only variation.

Dry weights as published I have no doubts are accurate. Dry means no oil in the forks, transmission, engine, and conceivably the rear shocks. It also means nothing in the fuel tank, fuel lines, and carburetors. Motorcycles definitely are not ridden in this dry state so we prefer to weigh them wet.

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torcycle, mean this: Gasoline approximately 6.7 pounds per gallon and oil approximately 7.5 pounds per gallon. (These figures are from an aircraft owner's manual.) Smaller bikes might total 2 quarts of oil with the larger machines going to maybe a gallon and a half. That would be 3.75 pounds versus 11.25 for a big honkin' road burner. If that's a 400-pound machine you're looking at a figure that's practically negligible. In the final analysis we will continue to weigh the bikes wet and note approximately how much fuel is in the fuel tank.

Also on the subject of our test features you will notice, beginning with this issue, the addition of decibel meter readings under muffling on our spec sheet. Noise has always been the number one enemy to motorcycling and, with the present State and Federal legislations regarding noise, db(A) readings will become a vital part of our magazine's test features.

OUR ERROR

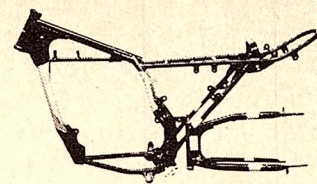
The March issue of *Modern Cycle* carried a small feature on motorcycle noise. Within the story we tried to illustrate the effects different muffling systems and devices had on a given machine's noise output. One of the machines was a pretty well used Suzuki TS 250R. We showed a 91 db(A) reading with the standard muffler. Of course, the people at Suzuki got a little upset, the CHP certified their TS250R at 83 db(A) and they certainly suggested that we look into the matter. We did. The machine, having suffered the rigors of Baja and the infamous Greenhorn Enduro had been trick-

ed up a bit. The rubber spacers that are found between the cylinder's cooling fins to deaden engine noise were missing. Also the bullet within the muffler system had gone by-by. So, therefore, we were in error by stating that our TS 250R Suzuki had a stock muffler/spark arrester system. It didn't.

POP COMES TO TOWN

There is a man in Japan who is as famous for making Hondas go fast as Offenhauser is at Indianapolis. Pop Yoshimura was here at Ontario last November for the big 250-mile road race, Gary Fisher had one of his engines. We saw this gentleman again at Daytona, he had built the engines for Fisher and Roger Reiman. Both Hondas fractured oil tanks within minutes of each other, Gary's just as he had taken over the lead of the 200-miler. Pop only builds engines, "No time to mess around with rest of motorcycle," he says.

On his way home Pop, with his son Fujio, and friend and business associate Dale Alexander, stopped by these offices to pay us a visit. They have plans for building Honda racing engines here and offering them for sale, and also marketing engine and chassis components. They plan to base out of Simi Valley, California, a suburb of Los Angeles that is away from associate Dale Alexander, stopped the congested city. The accompanying photo is one of Fujio Yoshimura taking a spin on our 74 test bike. Next month we will have the Yoshimura address so don't panic, they are still looking for a place to build engines and stock goodies.

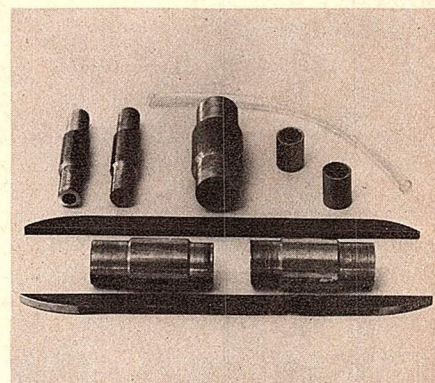


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simply pulls out. There are also 2 wing nuts that mount the rear of the fuel tank. Remove these 2 wing nuts, disconnect the two fuel lines and the fuel tank comes off in less than a minute.

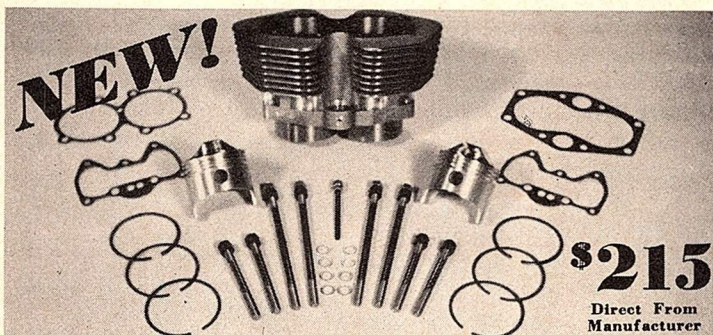
Our test R75/5 came with a 4.2 gallon tank that will allow a traveling range of approximately 200 miles. The 6 gallon tank is optional and with it 300-mile jaunts should be easy.

Compared to most bikes, BMWs have their cylinders sticking out and the huge crankcase castings look heavy. As a touring machine they are about right with the bulk of their weight carried down low. They are not so light that they hop with each irregularity the front wheel encounters on the road nor are they heavy to the point where you'll get a hernia pulling it on the center stand. The bike is also fitted with a side stand that comes up on its own. It's located under the left cylinder and when you're seated you can't see the stand, so they've made it return by itself.

Although the BMW is equipped with a kickstarter we didn't bother using it. A choke is fitted on the left side that operates a richening device in the carburetors. With this lever pushed down, and the easy to reach starter button depressed, a cold engine fires up before you can get your thumb off the starter button. The big engine takes awhile to warm up and practiced use of the three-position richening device can result in right away running with a cold engine.

If you're sitting on the BMW with both feet on the ground and rev the engine it will sway from side to side. In-line motorcycles do this and that's the way it is. You do notice this torquing while riding the bike but you get used to it before many miles have passed under the wheels. Sitting on the machine is a compromise between sitting *in* the saddle and sitting *on* the saddle. The cylinders of this opposed twin are staggered a few inches and the foot-

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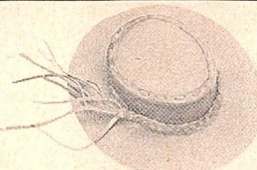
rests are offset the same amount. Having one foot a little ahead of the other, nicely tucked in behind the inlet tubes, is another feel only found on BMWs.

The engine is terribly quiet with only a tapping of the rocker gear heard slightly above the exhaust noise. The clutch pulls easy and works smoothly as you slip it into low gear. The gearchange from first to second, although easy and effortless, emits with a metallic clunk. In fact, changing into each gear in either direction is a clunking affair. The machine is absolutely silent in operation, a pure joy to ride with power to spare anywhere, even packing double, except for a Teutonic gearbox that clunks itself into gear. The BMW R75/5 is absolutely a masterful piece of highway machinery that impressed us as one of the finest made motorcycles in the world today. •

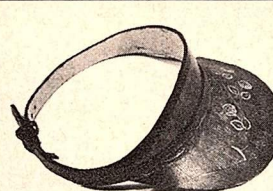
THE "SPORT" IN THE USSR

All through the interview Mr. Ruzhnikov kept apologizing for the poor workshop, old training motorcycles, etc. in spite of my own reassurances that, in many countries, boys did not have the same opportunities for a comprehensive training in the art of motorcycling. Normally with no more than a friendly nod from a dealer after being shown the location of throttle, clutch and brakes, they would be let loose on overcrowded roads into extremely dangerous traffic conditions and often learn the hard way.

Especially in the United States is the case where most of the present generation of young motorcyclists have parents completely lacking in motorcycling experience. With statistics over the years proving that, while a motorcycle is vulnerable in modern traffic conditions, a trained and experienced rider is one of the safest road users. Surely the money that is spent preparing restrictive legislation on the use of a motorcycle could be better spent on sponsoring a training scheme as the R.A.C./A.C.U. in England. (Text continued on page 80)



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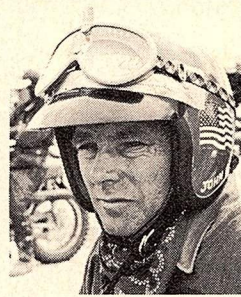
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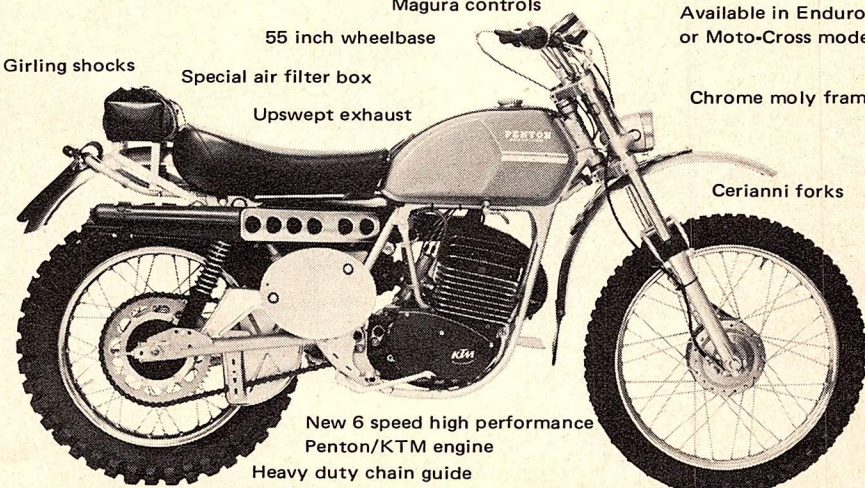
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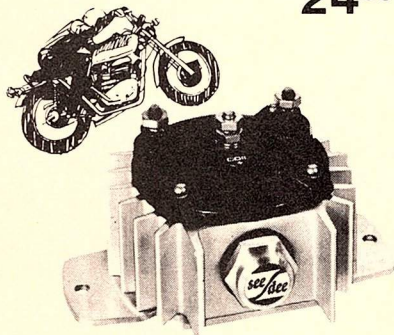
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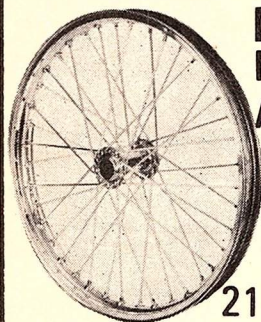
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MISS MODERN CYCLE CONTEST

Got a pretty gal and a good looking motorcycle? Put the two together in the best photo you can take and enter it in the Miss Modern Cycle competition, a regular feature in every issue.

If your photo is one of those chosen for use in the magazine, you'll receive five dollars and a one-year subscription to Modern Cycle. If you want the picture back, be sure to include a stamped, self-addressed envelope.



Prettily posed aboard a gold plated custom Harley-Davidson 74 is Miss Lee Routhier of Skokie, Illinois. Warner Riley (right, the drag racer), sent in the photograph along with the information that Miss Routhier is 26 years old, is 5' 8" tall, and is employed as an office supervisor at a maintenance and engineering firm. Warner tells us that the bike is a consistent show winner in the Midwest. Miss Routhier, of course, would be a winner anywhere. For sending in the winning photograph Warner Riley receives a check for \$5.00 and a free one-year subscription to Modern Cycle Magazine.

OSSA'S MICK ANDREWS REPLICA

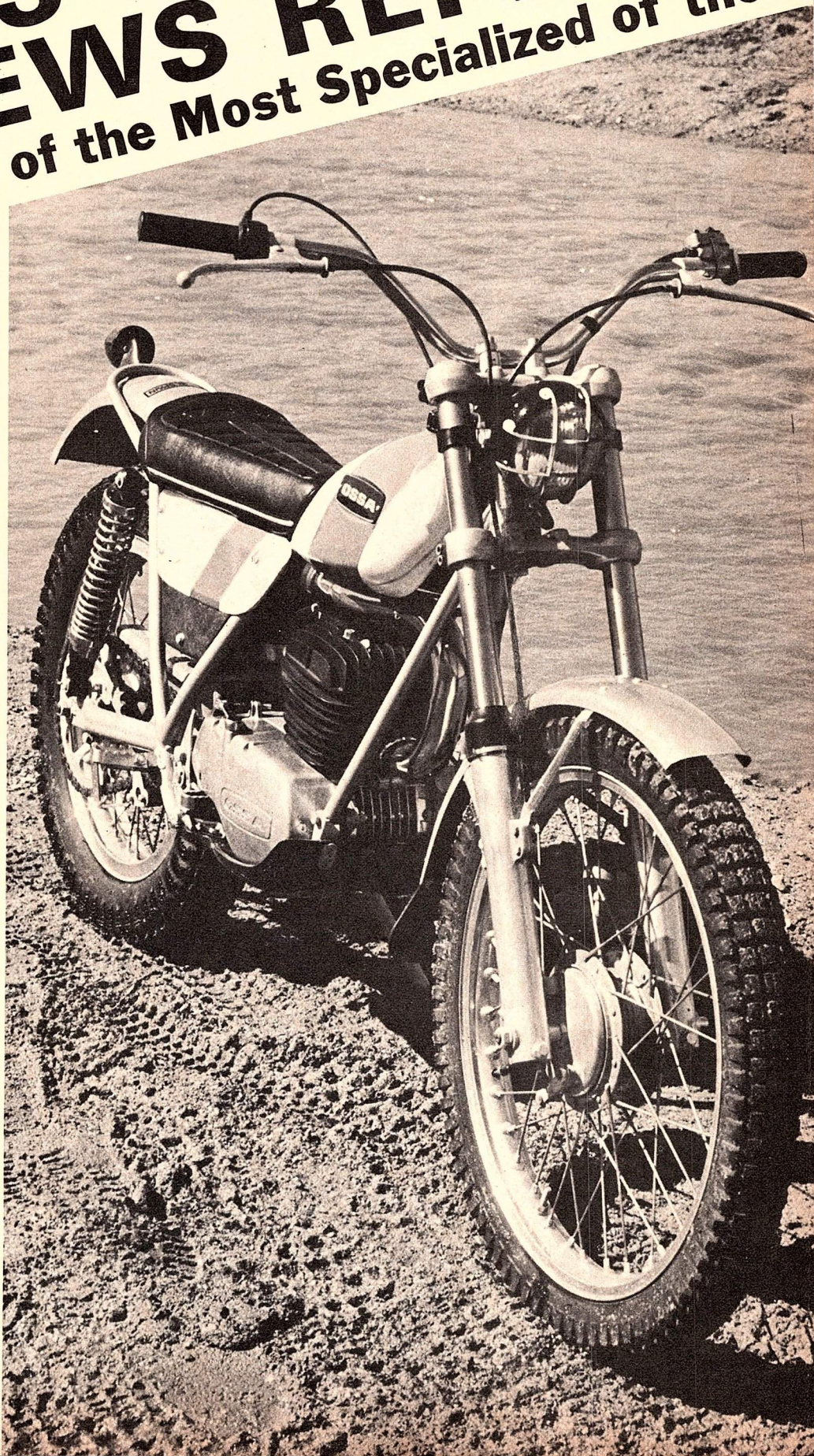
A Look at One of the Most Specialized of the Specialty Bikes

Riding a motorcycle takes certain degrees of bravery and skill, wherein the faster you go the braver you must be. A higher degree of skill is also required to keep one from landing in a heap, all crumpled and bent.

The broad spectrum of motorcycling certainly takes you from one end of the scope to the other, more so than any other sport. Not at the bottom, but very near the top in respect to skills required we find the highly competitive motorcycle sport called English trials. It is simply a game of riding over very difficult natural terrain without stopping or touching your feet to the ground.

Originated in jolly old England because large open areas for riding just don't exist, the feet up plonking style of riding has just begun to catch on in the U.S. Although this nation has endless miles of country one could ride in, getting to said area from popular places where people live can be nearly an all-day affair. With a trials machine a guy can amuse himself without leaving the confines of his smallish back yard. If he has a rock garden or gully nearby a greater challenge is presented and more fun for the trials addict.

The premiere event for trials riding is the Scottish Six Day, an extremely rugged and tough contest that pits man and machine against the Scottish Moors and its devilish weather. The Scottish has about 20 observed sections of varying degrees of difficult terrain



each day linked together by roads and paths. This classic has been going on since the late 1920s during which time many British firms have developed special trials machines to compete in this event and other similar contests up and down the British Isles. Feet up trials riding in England has been and still is a very popular pastime, but more than that a win at the Scottish carries so much prestige that manufacturers prepare and enter special teams.

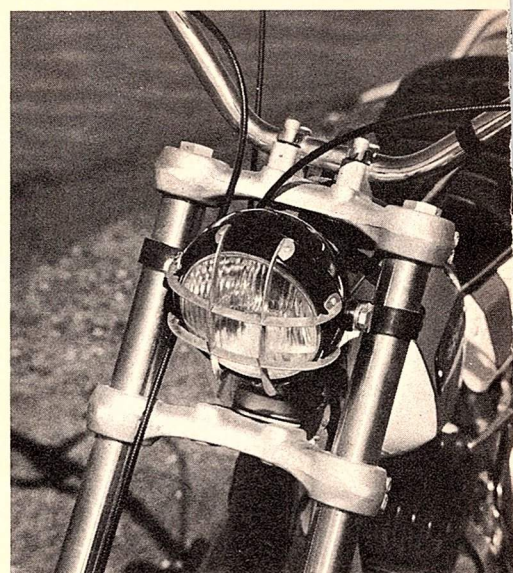
Until the appearance of Irishman Sammy Miller, English trials were dominated by Englishmen and English motorcycles. AJS, with their tractable and lightweight 350cc four-stroke singles, had a hammerlock on the event from 1947 through 1962. Royal Enfield and BSA would slip in for an overall win from time to time, but Ajay was always the one to beat. Then Sammy Miller showed up with an Ariel single and began a domination of the sport that has never been equalled.

These trials machines were all four-stroke singles, mostly in the

350cc class. The engines had extremely mild valve timing and utilized overly heavy flywheels which would enable the bike to claw its way up a muddy wall of rocks without spinning the rear tire and losing precious traction. The trials machines evolved into a special appearance of their own, high ground clearance, steep angled forks, and a saddle just bare enough to give the rider a resting place and not much comfort.

Weight is the enemy to a trials bike so if something isn't essential the bike doesn't have it. English trials are run in the day time, there are no lights. Fuel tanks are just large enough, and the handlebars are so placed that the only way they feel comfortable is when you're standing up to ride the machine. Footrests are too far back and you usually have to take your foot off the peg in order to change gears. Trials bikes are built for trials riding and that's about it.

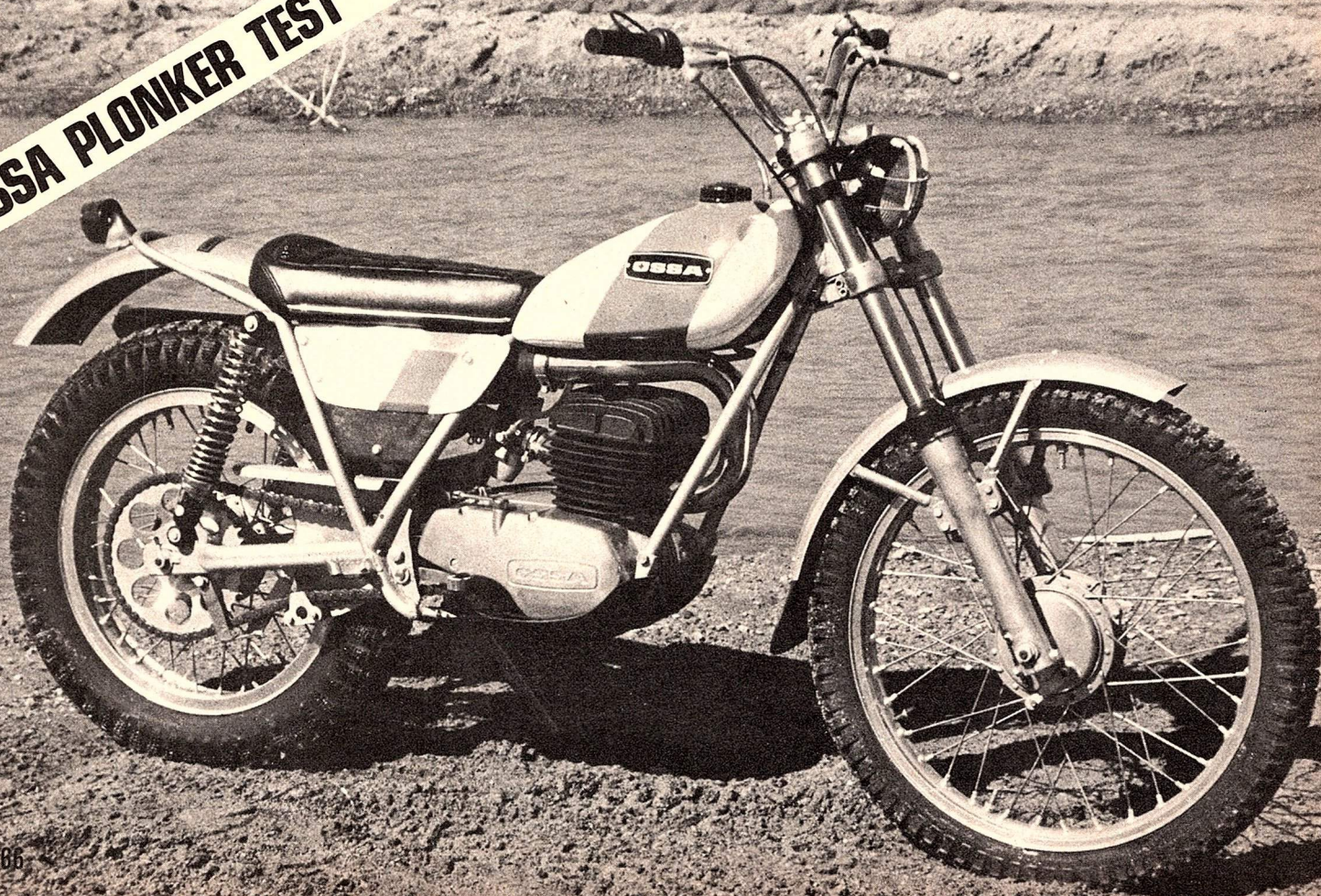
Nearly 10 years ago Senor Bul-to observed an English trials and thought this would be a great

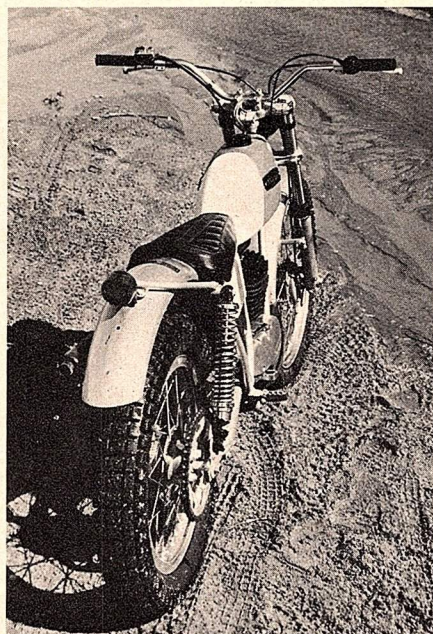
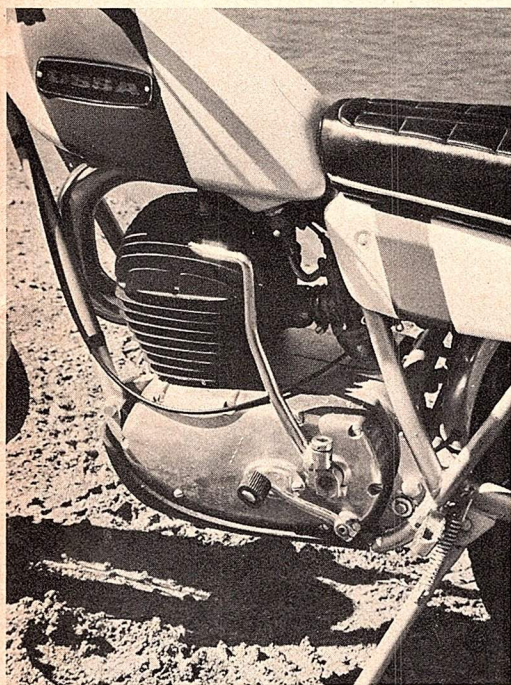


thing for his country. Spain too had fenced-off sections and rocky terrain. Trials required skill and finesse and a machine of some very special capabilities, capabilities not yet found in two-strokes. Senor Bul-to took on the added challenge of building a special motorcycle for English trials.

This game of trials riding caught on in Spain and shortly thereafter

OSSA PLONKER TEST





both Ossa and Montesa were building specialized machines of their own. Sammy Miller appeared in England on a Spanish-built trials machine and began dominating the events with a 250cc displacement two-stroke.

These two-strokes had all the desirable features the four-strokes offered yet weighed 50 pounds less and didn't have a cylinder head tucked way up under its gas tank; the two-stroke was less top heavy. The Spanish-made trials bikes had arrived, and in less than 2 years the old English four-strokes all but disappeared from the scene.

We're now in the second generation of motorcycles built for English trials work. The three Spanish makers have refined their products to a higher degree of professionalism using the vast knowledge of trials specialists like Sammy Miller and Mick Andrews. Our test machine is properly known as the Mick Andrews Replica Plonker. It's the product of three years of riding, testing, and modifying by the Ossa factory and Mick Andrews. The new Ossa must be good because Mick is currently leading in his bid for the Trials Championship aboard his Ossa.

The outstanding eye catcher of

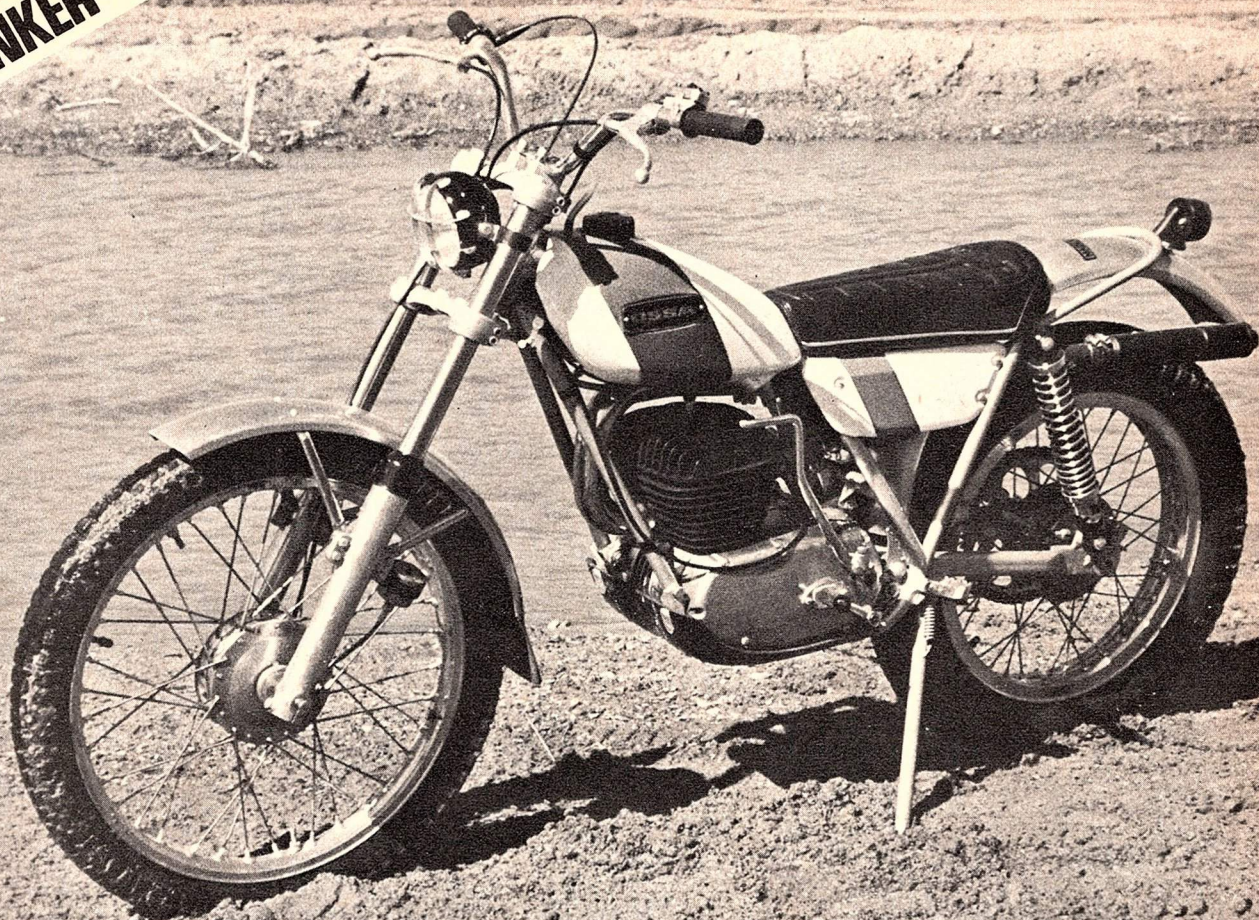
this 1972 model Plonker is the white gas tank with its six-inch wide bright green stripe across its profile. The two plastic side covers carry this same color scheme. A silver frame and the many polished aluminum pieces add to a very attractive bike.

The frame is rather unconventional in that the two down tubes start at the steering head and terminate at the front of the engine case where they bolt up. Closely contoured to the bottom of the engine is a skid plate constructed of fiberglass matting and poly-carbon resin. This plate is not only light and super-strong, its slick surface allows it to slide over logs, rocks, and such. A most unique concept for English trials-type motorcycles.

Another fine feature is the high, over-the-cylinder head exhaust pipe. The long, large diameter pipe terminates at the rear of the cylinder head where it clamps onto an expansion chamber. The chamber goes under the seat, curves around the rear tire and exits on the left side between the tire and rear shock. An U.S.D.A. approved spark arrester/muffler attaches to the end of the chamber by two clamps and does an appreciable job of deadening the Plonker's exhaust noise. The muffling device comes as an extra with each bike sold in the U.S.

Under the seat on the right is an air filter box worth mentioning.

OSSA PLONKER



The attractive cover is held on with three fasteners, and inside is an oil wetted foam air filter trapped between two screens. Air must enter from an area near the bottom of the seat before it makes a right angle turn to enter the filter, heavier particles will drop

to the bottom of the chamber resulting in longer service from the air filter element.

Soft suspension is essential for good trials performance, the Plonker uses suspension by Telesco. The forks have an alloy slider to minimize unsprung weight and pinches the front axle with a long slotted hole at the bottom of the legs. This method provides a lot of area to grip the axle thus reducing the tendency for the forks to twist. Both fork stanchions can be slid up through the triple clamps for minor variations of trail. The Expert trials rider can tell the differences this option offers.

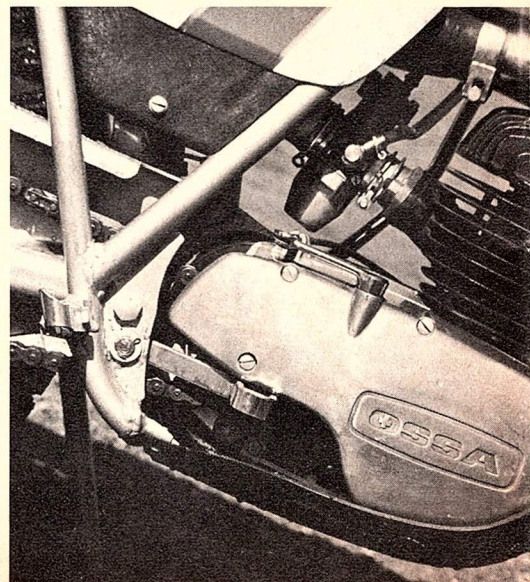
The Telescos on the rear of the Plonker look sturdy enough to be on a moto cross machine, and they are. There are five variations of spring tension with the hydraulics providing a soft ride in both directions. The seat, although attractive, is minimal in the padding department so the soft rear shocks are appreciated that much more.

Handlebars are a normal trials bend fitted with the latest Spanish Amal all-alloy levers. We didn't

get a chance to drop the machine and see if the levers would snap off like so many Japanese types do, but they look pretty deluxe. Our machine was equipped with a couple of rubber mounted lights, and with this package comes a switching box that mounts on the left handlebar. Equipped with a Motoplat CDI ignition the lights just tie into the lighting coils already on the bike.

The 247cc Plonker engine, like its contemporaries, operates on a

(Text continued on page 82)



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ENGINE

Engine Type 2-STROKE, SINGLE CYLINDER
Bore 72mm
Stroke 60mm
Displacement 244cc
Compression Ratio 9.0:1
B.H.P. at R.P.M. 17 AT 6,500
Carburetor 27mm IRZ CONCENTRIC
Ignition G.D.I. MOTOPLAT
Starting System FOLDING KICK
Lubricating System OIL MIST

FUEL AND OIL

Oil Capacity IN FUEL
Oil Recommended FULL BORE (32:1)
Fuel Capacity 1.5 GALLONS
Fuel Recommended PREMIUM
Approximate mpg 50

FILTERING SYSTEMS

Air OIL WETTED FOAM
Oil SCREEN
Fuel SCREEN

FRAME

Frame Type DOUBLE STRUT, TUBULAR
Weight Distribution FRONT: 45%, REAR: 55%
Wheelbase 50 TO 51 INCHES
Ground Clearance 10 INCHES
Peg Height 14 INCHES
Seat Height 30 INCHES
Handlebar Width 32.5 INCHES

SUSPENSION-TYPE

Front TELESCOPIC (BETOR)
Rear HYDRAULIC SHOCK (BETOR)

SUSPENSION-TRAVEL

Front 7 INCHES
Rear 4 INCHES

DRIVE TRAIN

Clutch Type MULTI-DISC, WET
Primary Drive DUPLEX CHAIN (2.27:1)
Countershaft Sprocket 12 TEETH
Final Sprocket 46 TEETH
Final Drive SINGLE ROW ROLLER CHAIN
(5/8 x 1/4)
Gear Ratios Overall
1st 37.4:1
2nd 28.2:1
3rd 20.8:1
4th 14.1:1
5th 8.7:1

TIRES AND WHEELS

Front 2.75x21 (2-PLY) TRIALS BLOCK
Rear 4.00x18 (4-PLY) TRIALS BLOCK

IMPRESSIONS

	Poor	Good	Excellent
Throttle Response			●
Acceleration		●	
Power Band			●
Starting		●	
Engine Noise		●	
Muffling db (A)		87	
Vibration		●	
Handling			●
Choice of Tires			●
Suspension			●
Rider Comfort		●	
Transmission			●
Instrumentation		N.A.	
Lighting		●	
Toolkit		●	
Paint and Chrome		●	
Styling			●
Mileage			●
Braking		●	





BUILDING A 125 YAMAHA TRACKMASTER

A NEW FRAME KIT FOR THE PERSON WHO WANTS A UNIQUE 125 YAMAHA

When it comes to "trick" equipment, particularly in the world of Professional racing, a name that stands out is that of Trackmaster. Trackmaster is a small firm located in Northridge, California, that specializes in the manufacture of racing frames and related components. A short walk through the pits at any AMA National dirt track event will quickly disclose that a good many of the machines run by the top talent are built around Trackmaster frames. Until recently Trackmaster has concentrated on machines designed for the Professional racer. Recently, the firm expanded its facilities and is now offering equipment for the Sportsman competitor.

Certain to be one of the most popular of these new units is a frame designed for the 125cc Yamaha Enduro. The kit includes the frame complete with Timkin tapered steering head bearings, swing arm, seat mounting plate, and all necessary hardware. Available as optional extras are a fiberglass gas tank which retails for \$35.00, and a super light chrome-moly footpeg kit that sells for \$12.00. The stock gas tank can be used with the kit providing mounting tabs are welded to the front of the tank. These tabs can then be bolted to the steering head gusset plate.

The optional fiberglass tank has several things in its favor: It's considerably lighter than the stock unit, and it's a lot more attractive. Other options available from Trackmaster are a Fun 'n Fast air cleaner which is a lot more efficient than the stock item, and a pair of unbreakable Preston Petty fenders which are considerably lighter than those originally fitted to the bike.

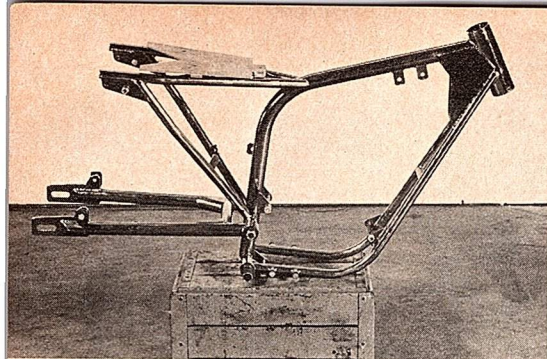
4130 chrome-moly is the tubing used in the frame and heliarc welding holds everything together. The swinging arm is just a hair short of 2 inches longer than the stock arm and it pivots on Oilite bronze bushings. The steering head is angled 29 degrees from the vertical, which

is the same as the stock dimensions. The seat mounting plate is of light aluminum and bolts directly to the underside of the stock saddle. Once fastened to the saddle it is then bolted to the frame. This "plate mounting" arrangement is neat because it allows the owner to easily install any of the lightweight racing seats available on the market. The mounting fixture for the fiberglass tank is secured to the backbone tube with a couple of radiator hose clamps. The reason that the bolt is not welded in place is that a rigid bolt might, in a collision, damage the fiberglass. The clamp-on mount will allow the tank to shift slightly on impact.

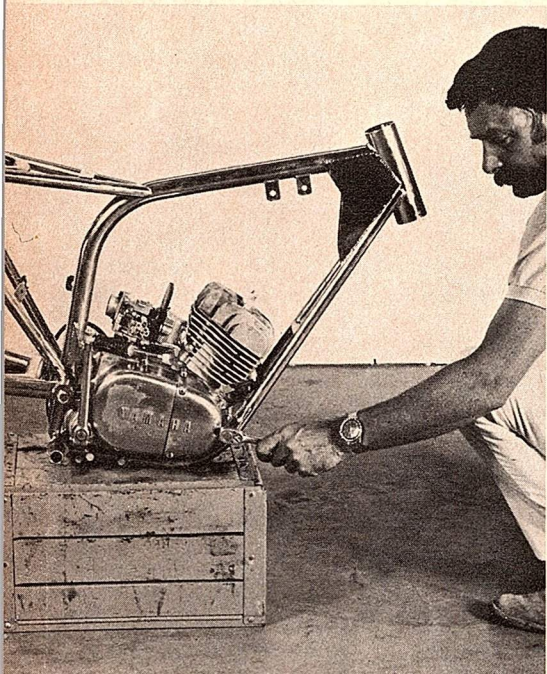
The cost of the basic kit is \$260.00. It's interesting to note that both the swinging arm and the lightweight footpeg kit are available separately, for the owner who wants to install them on his stock machine. Trackmaster is noted for the quality of finish on their Professional racing frames and this same finish is found on the kit they create for the Sportsman rider. Finished in bright nickel plate, the frame has some of the finest welding ever seen. The fiberglass gas tank is finished in a bright orange which matches the color impregnated in the Preston Petty fenders. The Trackmaster frame is certainly more attractive than the stock component, mainly because all of the extraneous tabs and brackets have been left off. Because the kit is set up to accept the stock Yamaha exhaust pipe, any of the racing pipes available will fit right in place.

The Trackmaster frame kit is lighter than the stock component, it's stronger, it's certainly more attractive, and it "works." The accompanying photographs show how to put one together.

Information on this kit can be obtained by writing to Trackmaster Racing Frames, 18548 Parthenia Street, Northridge, California.

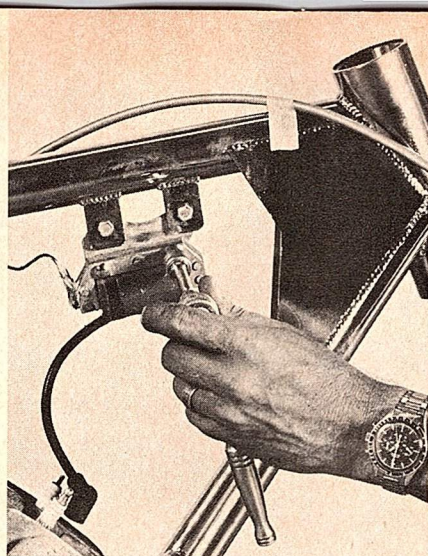


The basic Trackmaster frame kit for the 125 Yamaha. Swing arm is two inches longer than stock and pivots on Oilite bronze bushings.

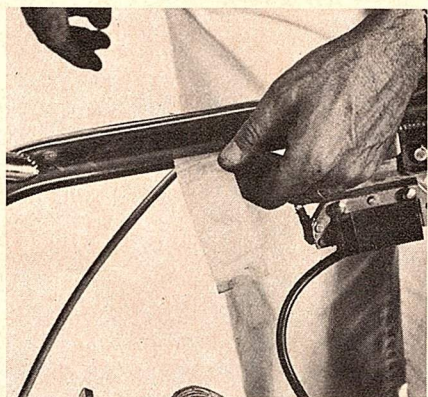


The engine is secured in place at three separate points. Aircraft quality bolts and self-locking nuts are used to mount the engine.

YAMAHA TRACKMASTER



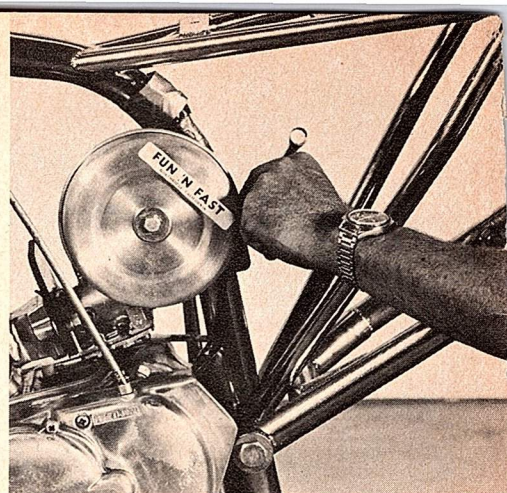
Once the engine is in place it's time to start hooking up the electrics. The coil is bolted to the mounting tabs and a dab of Loctite insures that everything stays in place.



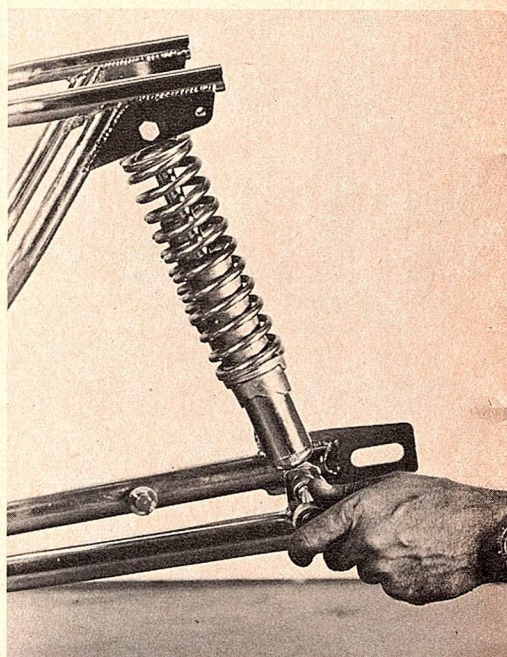
Using good quality ducting tape fasten the wiring loom to the backbone tube. Tape the loom in several spots and seal the open terminals with some form of elastic material.



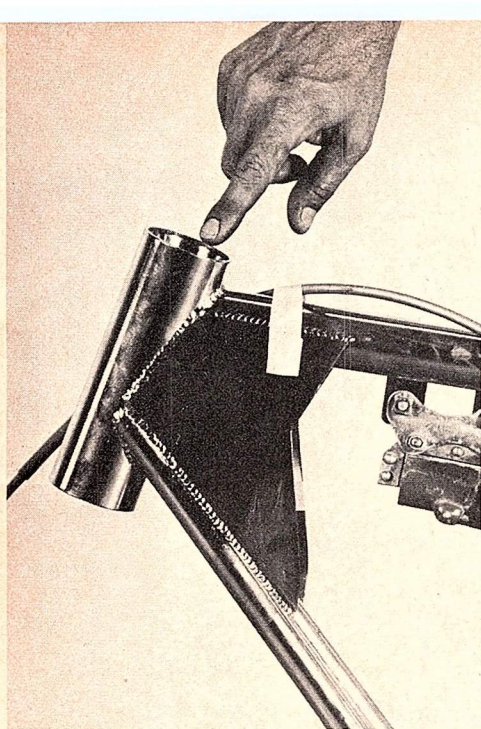
Trim the stock rubber air cleaner collar and fit it to the PVC elbow supplied with the Fun 'n Fast air cleaner element. Oil the Filtron element as a final step.



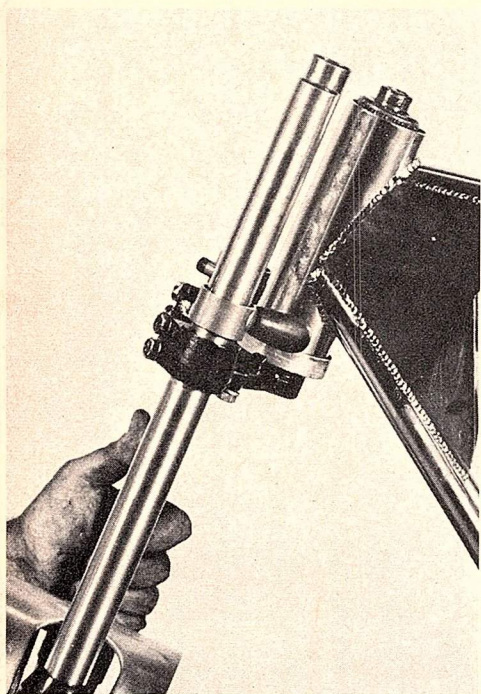
It's a tight fit but the PVC elbow will clear the backbone tube. The air cleaner shell is bolted to a mounting tab affixed to the frame.



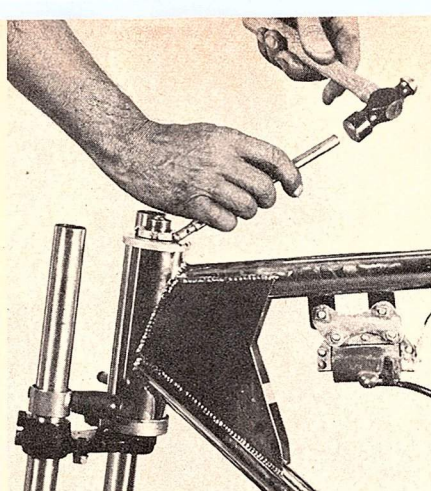
Now it's time to start getting the bike on its "feet." The rear suspension units bolt directly into place. Again the necessary bolts are supplied with the kit.



Now to the front of the machine. The steering head angle is 29 degrees. Tapered Timkin roller bearings are furnished with the Track-master kit.



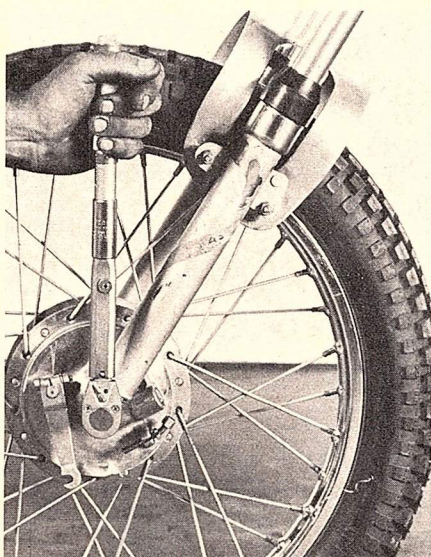
Apply a dab of fresh grease to both bearings and slip the triple clamp spindle into position in the steering head.



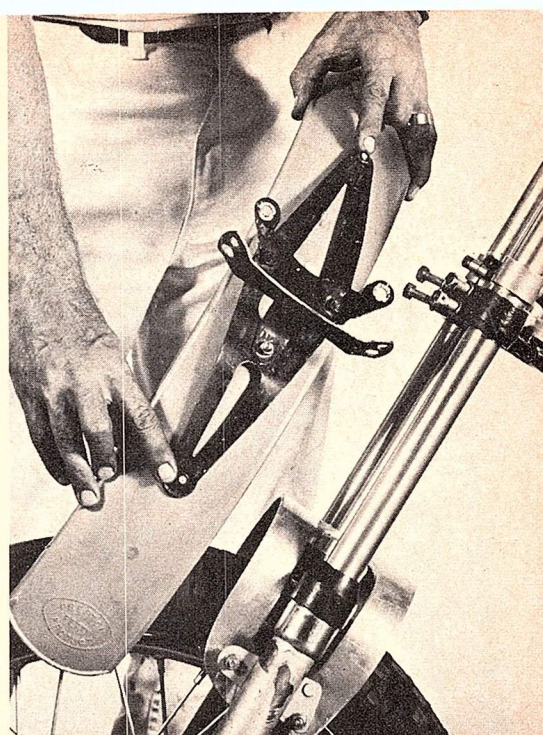
Use a hammer and punch to tighten the steering head locking nut. Rotate the front end to make sure that the locking nut is not too tight.



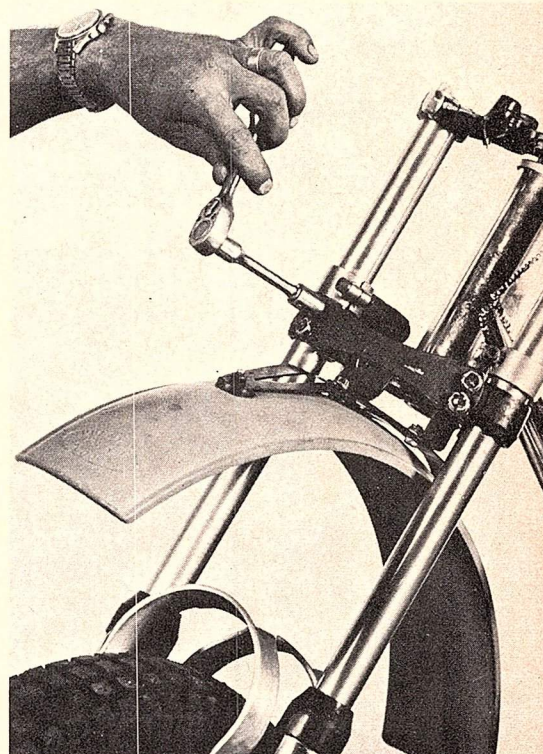
Once the spindle is secure slip the fork crown into place. Then make sure that all of the nuts and bolts that support the front end are tight.



With the forks in position it's now possible to install the front wheel. Remember to tighten the axle before cinching down the pinch bolt.

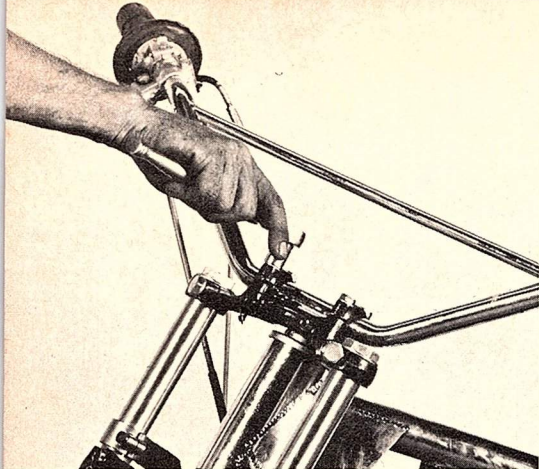


Next, determine the centerline of the Preston Petty fender. Then, drill the necessary holes and mount the bracket.

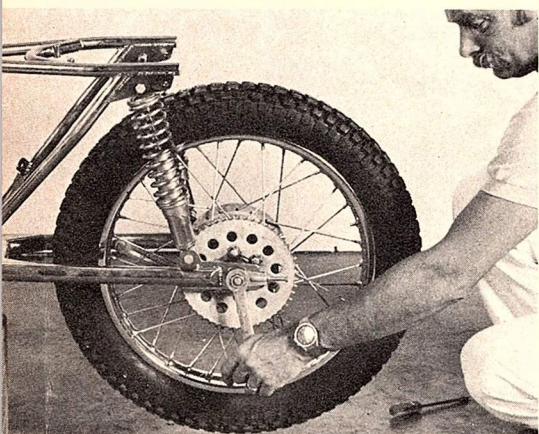


The lightweight fender mounting bracket is held in position by a total of six bolts. All of these bolts utilize stock mounting holes.

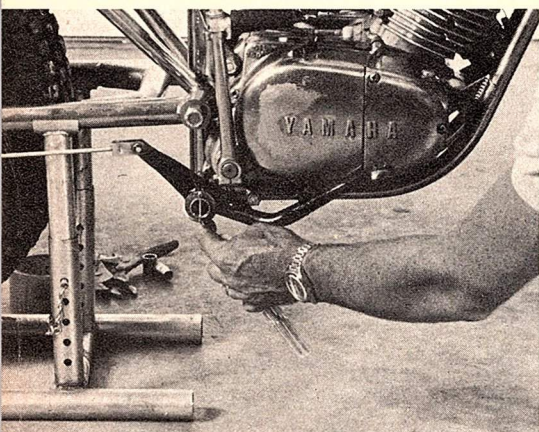




Lightly clamp the handlebars in place, position them, then cinch them down. Connect the front brake cable and the clutch cable. So much for the front end.

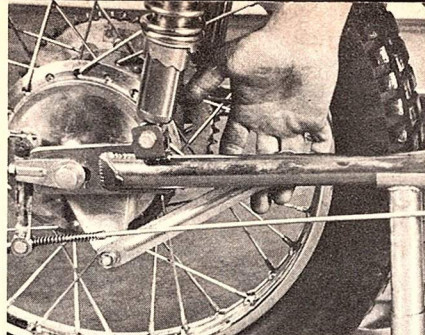


The first step at the rear of the machine is to mount the back wheel. The wheel slips right into place and adjustment is simplified by increments scribed into the mounting plates.

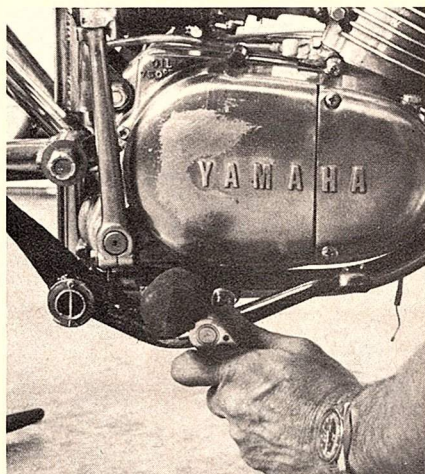


Once the rear wheel is positioned it's time to fit the rear brake assembly. The stock brake pedal slips right into place and the brake rod needs no modification.

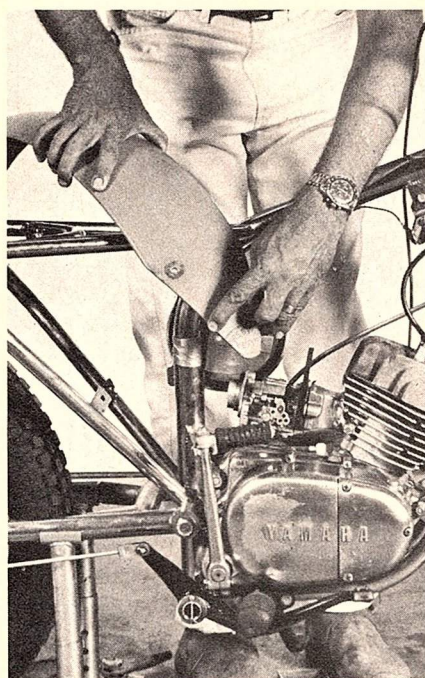
TRACKMASTER



The stay for the brake backing plate is fitted from the stock mount on the plate to a fixing point on the right side of the swinging arm.



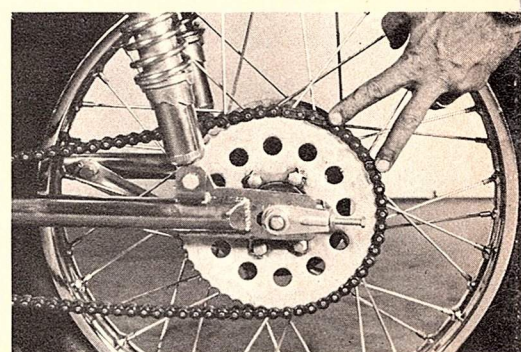
Once the rear brake assembly is in place it's possible to mount the foot-peg assembly. The pegs fasten to the stock mounts using hardware furnished by Trackmaster.



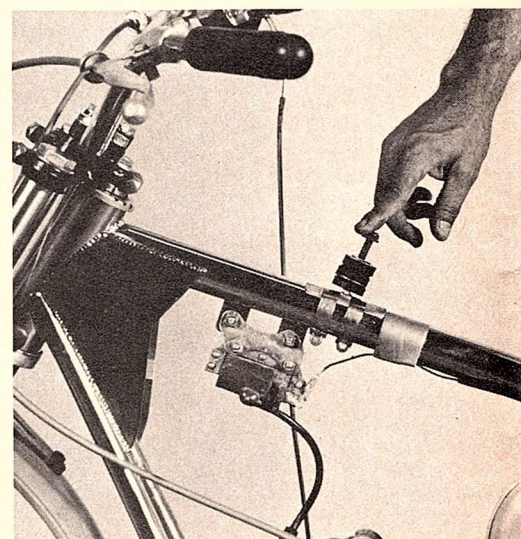
The next component to be installed is the rear fender. To properly fit the Preston Petty fender it must be trimmed to line up with the mounting tabs.



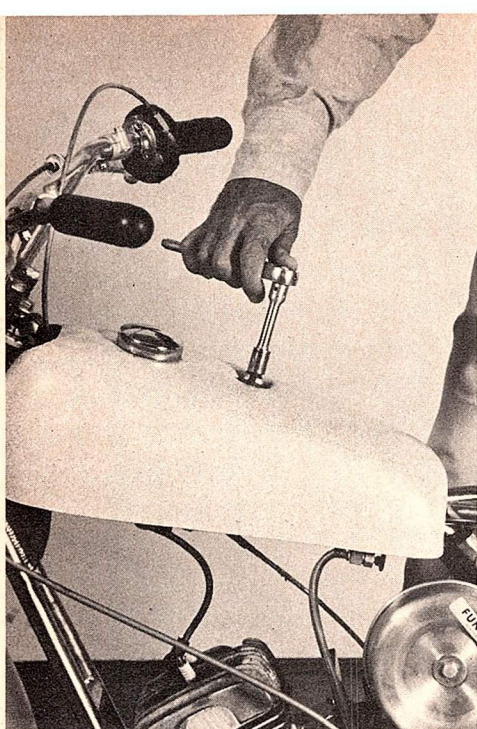
Once the rear fender is trimmed to fit there are two ways of securing the rear: A bolt can be run through the seat mounting plate or a bracket can be fabricated out of soft aluminum stock. We made the bracket.



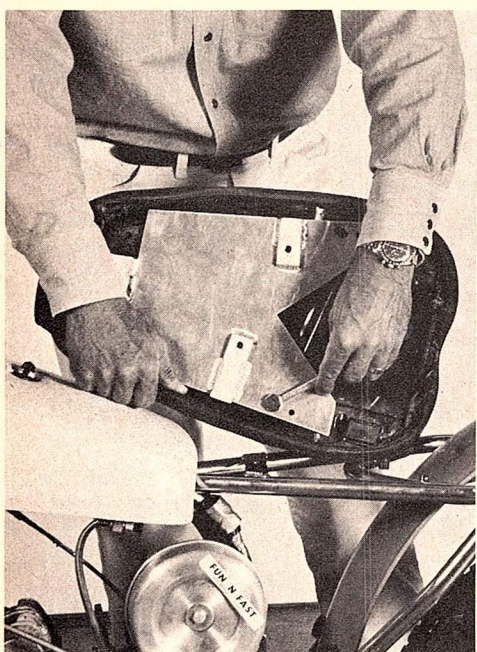
The final step at the rear of the machine is to install the final drive chain. Because of the increase in swinging arm length it may be necessary to add a couple of links.



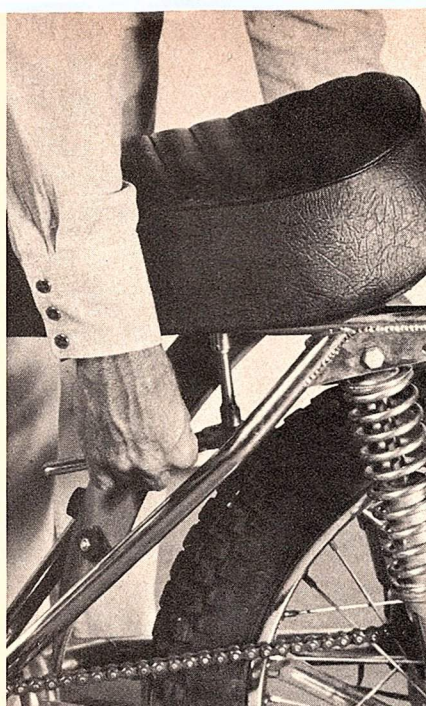
Next we come to the mounting of the gas tank. The securing bolt is strapped, with radiator clamps, to the backbone tube. Leave the fixture loose until the final location is decided upon.



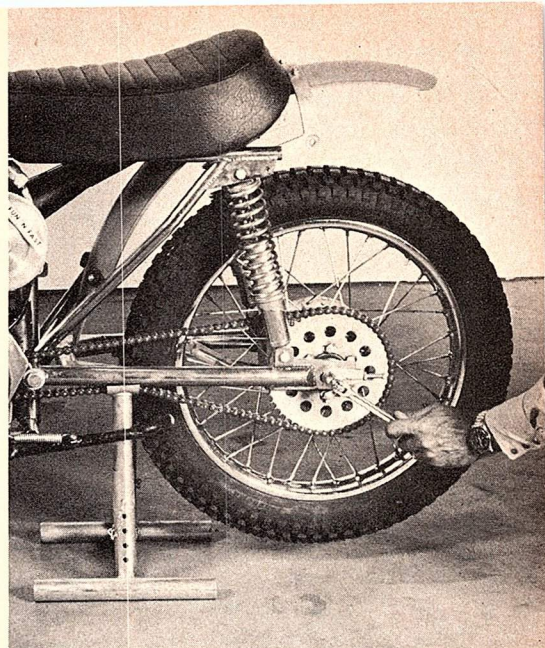
Once the final location is decided upon, cinch the tank down and fasten the fuel lines. Some foam rubber under the tank will act as a shock absorber.



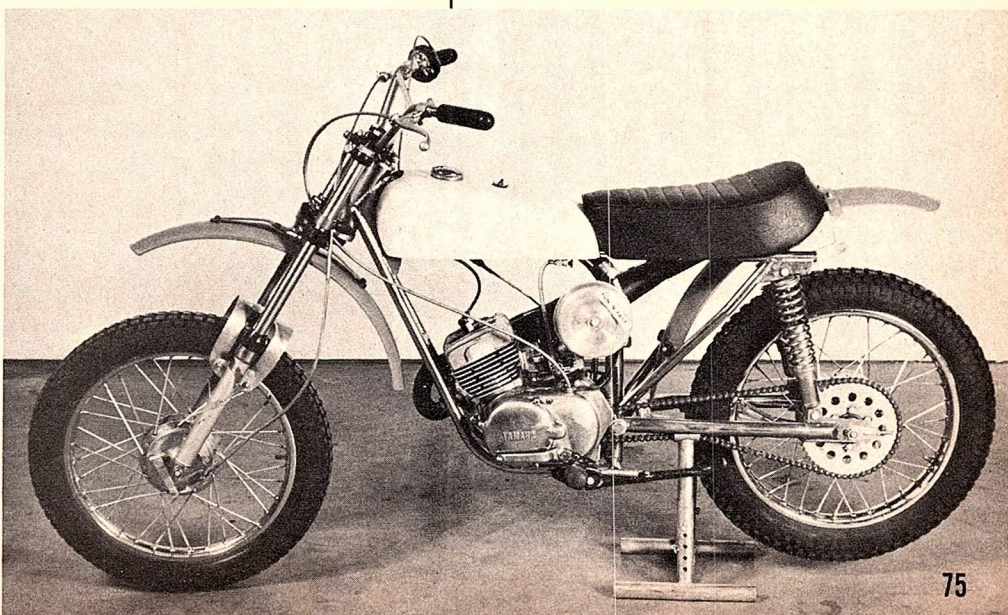
Now, fasten the seat mounting plate to the underside of the saddle. The stock seat fits on the plate, or any of the lighter racing seats can be fitted to the plate.



Six 10mm bolts fasten the seat to the mounting plate and three larger bolts fasten the seat to the frame.



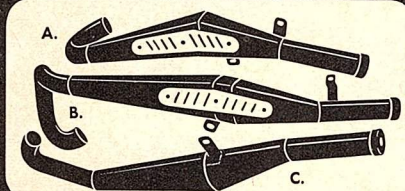
The final step is to go completely over the bike and make sure that all nuts and bolts are absolutely tight. Oil in the engine and gas in the tank and you're ready to go!



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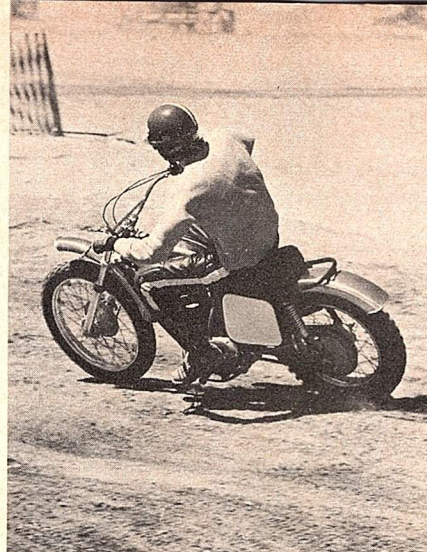
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are probably good enough riders to not misuse the machine.

Starting has also been assisted by the addition of automatic spark advancing mechanisms. They used to have a mechanical retard on the handlebar. If you catch it wrong it may still kick you back.

There is but one glaring fault with both motorcycles, they only have 45 degrees of fork turn lock to lock. That's not enough for a moto-crosser or serious trailer. These stops are a simple tab that is part of the lower triple clamp and a hack saw or file will solve the problem. There is plenty of room between the fork leg and fuel tank. This could have been done at the factory before they put the triple clamp on the machine.

There are only slight differences between the two engines. The MX has a carburetor that is 2mm larger and a little wilder cam. We'll just say, without going into all kinds of timing theory, that the MX has 20 degrees more valve overlap than the T model. Consequently, the BSA B50T is a little easier to start and it runs stronger at slower engine speeds.

In conclusion; both BSA motorcycles are quite good for the chores they were chosen. The MX is a racer and the T is a street legal off-road trail machine. Neither will take the place of the other, especially in this highly developed world of specialized motorcycles.

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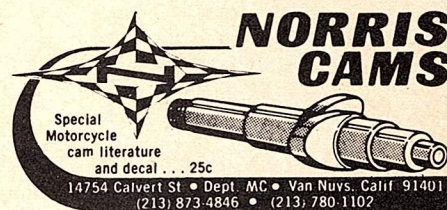
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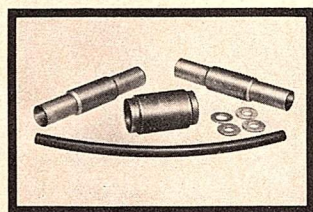


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It all began with the rudimentary mini-bike: A crude little machine with small diameter wheels, a basic (very basic!) frame, and a four-stroke proprietary engine. Both comfort and suspension were minimal, and a lot of fathers spent (or wasted) a lot of time just keeping them running. Regardless of their drawbacks the kids loved them.

Two years ago everything changed, and changed for the better. Yamaha introduced a very sophisticated machine known as the Mini Enduro. The Yamaha bike looked like a small motorcycle, it had good power, and it was damn near "bulletproof." The kids adored it and the fathers blessed it. Here was a machine, designed for the kids, that freed dad from the chores of keeping a mini-bike operating.

Naturally the Yamaha Mini Enduro sold like the proverbial hotcakes. In fact it created a new classification of machines. Now, in addition to mini-bikes and motorcycles we have mini-cycles.

One of the newest additions to this rapidly expanding field is from Gemini and it's called the Boss 80. The Boss 80 has all of the features that have made mini-cycles so popular. It has large spoked wheels, the suspension is remarkably sophisticated, the engine produces good power over a wide band, and, most important, the machine looks like a miniature motorcycle. Actually, the Boss 80 is slightly larger than most mini-cycles. Overall length is 70 inches, wheelbase is 48 inches, its widest point (the handlebars) is 34 inches, overall

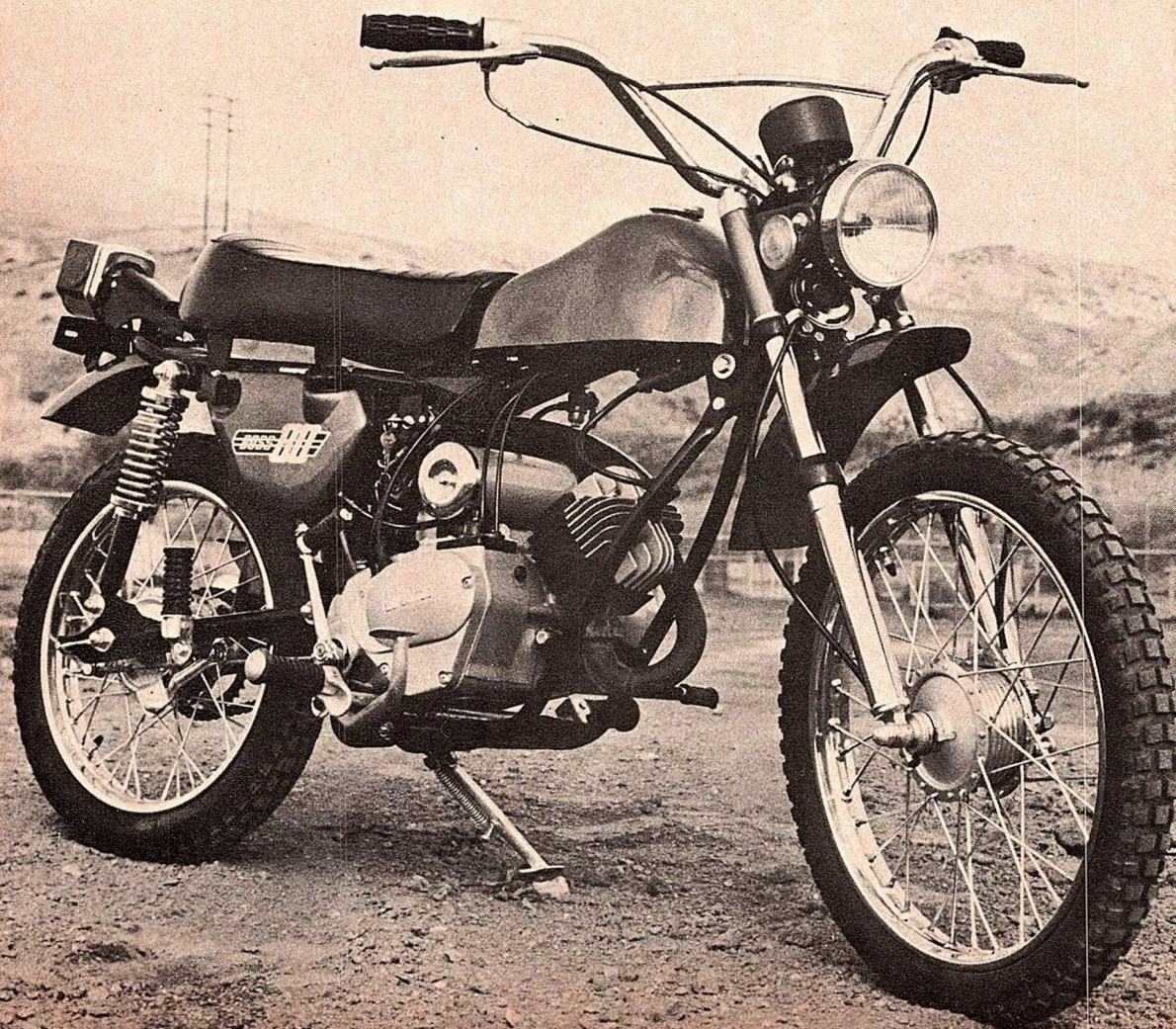
height is 38 inches, and seat height is 29 inches. A 17-inch wheel is fitted to the front of the machine while the rear of the bike carries a 15-inch rim. The front tire is 2.25x17, and the rear tire is 2.50x15. Both tires are full knobies, rather than the trials universal-type found on the majority of mini-cycles.

One of the obvious advantages of being slightly larger is that the Boss 80 can carry heavier loads, meaning, that more members of the family will be able to get use out of the machine. The obvious drawback of the Boss 80 is that, particularly with that 29-inch seat height, the smaller members of the family will not be able to use the bike.

The Boss 80 is powered by a single cylinder, two-cycle engine

THE GEMINI BOSS 80

Bikes For The Kiddy Set Continue To Improve





The single cylinder two-stroke engine has a bore of 47mm and a stroke of 42mm, giving a total ca-

capacity of 80 cubic centimeters. Lubricating is accomplished by an automatic injection system.

with a bore of 47 millimeters and a stroke of 82 millimeters. Total capacity of the engine is 80 cubic centimeters, compression ratio is 8.1:1, and maximum output is 7.5 horsepower. Induction is controlled by a rotating disc mounted on the right end of the crankshaft. A 15 millimeter Mikuni carburetor feeds the fuel/air mixture to the combustion chamber. Lubrication of the engine is accomplished with an injection system which possesses most of the positive characteristics common to this form of oiling. The oil pump meters the amount of oil, depending on engine rpm and on the load under any operating conditions, thus forcing the proper amount of oil into the engine at all times. With any form of two-stroke injection oil consumption is considerably improved, carbon build-up is reduced, and excessive smoking from the exhaust pipe is almost completely eliminated. Oil for the Boss 80 injection system is carried in a tank mounted on the right side of the bike.

Primary drive, between the crank-

shaft and the clutch housing, is by helical cut gears and the power is transmitted to the rear wheel through a 4-speed gearbox. The transmission is extremely smooth in operation and the shift pattern appears to have been designed with the beginning rider in mind. Neutral is all the way at the top of the shift pattern. By progressively depressing the shift lever first, second, third, and fourth gears are obtained. The beauty of having neutral all the way at the top of the pattern, particularly for the youngsters, is that it does away with the need to find neutral between first and second as is common on most transmissions.

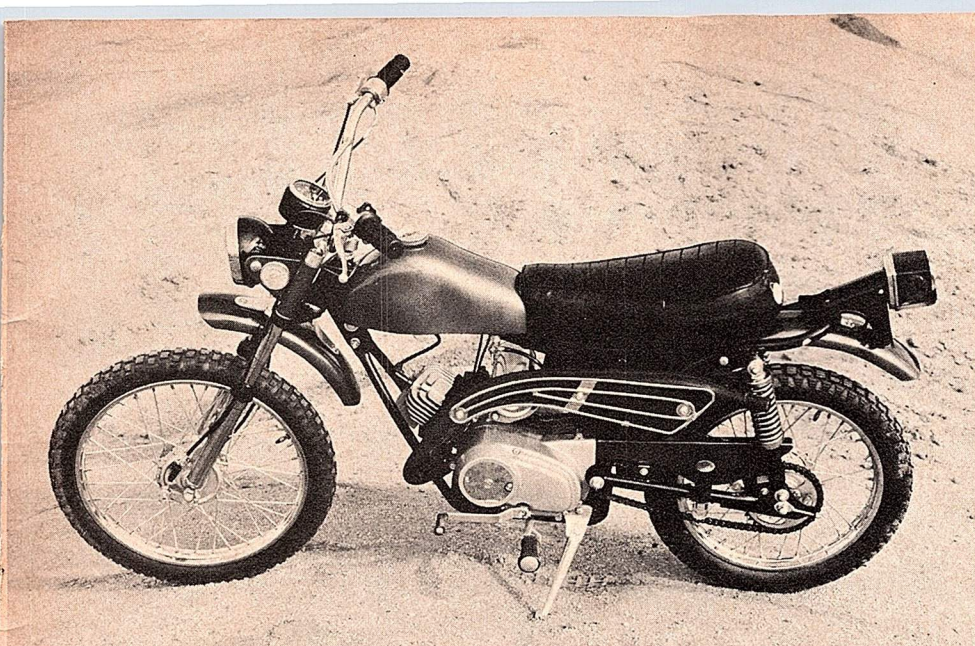
The Boss 80 engine is a very willing performer and it's very easy to start. Cold starts are simplified by the enrichening lever mounted on the left end of the handlebar. When the engine is cold you simply swing the lever to the open position, with the throttle closed, and kick the starter lever one or two times. Invariably the engine will fire.

The chassis on the Boss 80 is extremely rugged. A very large diameter backbone tube passes from the steering head beneath the gas tank and then curves downward to terminate at a built-up structure. A pair of front downtubes are bolted to the steering head gusset, and pass beneath the engine to terminate at the aforementioned box structure. The sub-frame consists of an upper loop which supports the saddle and rear fender and a pair of diagonal stringers which provide torsional rigidity. A sturdy bash plate welded to the cradle tubes protects the underside of the engine and helps keep the tubes par-



The front forks are stylish in appearance and do a good job of absorbing minor jolts. The fender is a bit on the short side, and it allows the front tire to throw mud up onto the cooling fins of the cylinder.

The chassis on the Boss 80 is extremely rugged. A very large diameter backbone tube passes from the steering head beneath the gas tank and then curves downward to terminate at a built-up structure. A pair of front downtubes are bolted to the steering head gusset, and pass beneath the engine to terminate at the aforementioned box structure. The sub-frame consists of an upper loop which supports the saddle and rear fender and a pair of diagonal stringers which provide torsional rigidity. A sturdy bash plate welded to the cradle tubes protects the underside of the engine and helps keep the tubes par-



The Boss 80 scores high in the appearance department. The bike also proves to be quite comfortable,

even when used as transportation for an adult rider.

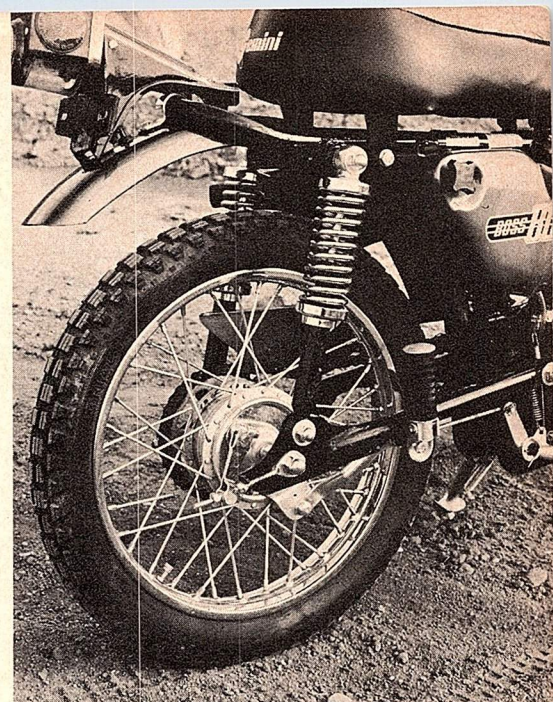


Full of gas and oil and ready to run the Boss 80 weighs a trim 150 pounds. The wheelbase is 40 inches and the machine has a very acceptable 8.5 inches of ground clearance.

allel. Constructed of tubular stock, the swinging arm is well braced at the pivot point to prevent flexing. Many of the welds on our test machine were quite sloppy and could have used some "cleaning up," however, the glossy black enamel which covered everything was very well applied.

Suspension on the Boss 80 is quite good. The rear shocks are hydraulically damped and are capable of meeting demands put on them by the small adult. With a youngster in the saddle the rear suspension works just fine. Much the same can be said for the front suspension. With a mini rider on the mini saddle the front end will begin to make noise, particularly, when the machine is forced over rough terrain.

From the standpoint of styling it's difficult to find fault with the

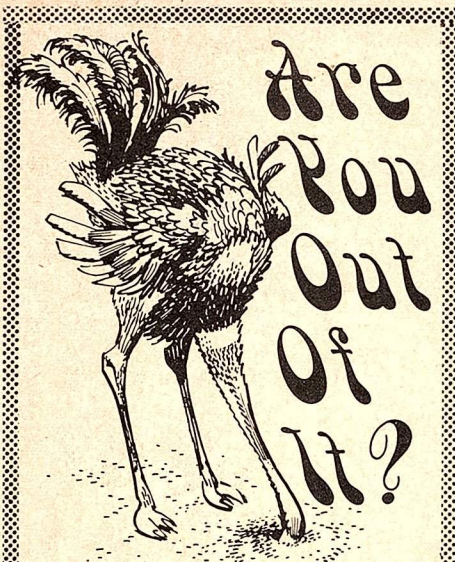


Rear suspension on the Boss 80 is more than adequate for a young rider. Mounted in full width hubs, the brakes are well sealed against dirt and moisture.

Gemini Boss 80. The headlight and speedometer are well integrated, however, the taillight/license plate holding assembly looked like the proverbial afterthought. The machine has more than enough engine, it's a good looking bike, muffling is excellent (though we do wish the machine came with an approved spark arrester), and overall finish is good. In its stock form the Boss 80 is a good example of the current state of the art in the mini-cycle field. In modified form it has already shown itself to be a force to be reckoned with in mini-cycle racing associations. The Gemini Boss 80 is a good choice for the youngster caught between mini-bikes and motorcycles.

Engine Type	2-STROKE—SINGLE
Bore	48mm
Stroke	42mm
Displacement	80cc
Compression Ratio	8.1:1
B.H.P. at R.P.M.	8.5 AT 7,000
Carburetor	MIKUNI
Fuel Capacity	1.25 GALLONS
Lubricating System	OIL INJECTION
Clutch Type	WET, MULTI-DISC
Final Drive	CHAIN

Starting System	KICK, FOLDING LEVER
Top Speed	46 MPH
Tire Size	FRONT: 2.25x17—REAR 2.50x17
Suspension	FRONT: TELESCOPIC REAR: SWING ARM
Frame Type	TUBE STEEL, CRADLE
Weight	143 POUNDS
Wheelbase	48 INCHES
Ground Clearance	7 INCHES
Peg Height	8.5 INCHES
Seat Height	29 INCHES



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THE "SPORT" IN THE USSR

The Russian motorcycle industry, with a claimed output of 2,000,000 units annually, is one of the world's largest and, within the scope of this article, it is impossible to give more complete details. However, it is known that the majority of machines produced in the USSR are of the general transport and touring type, equivalent to those produced in the West around the late 50s. I would suggest that anyone requiring further information on this subject should write to the U.K. importer, Wells Motorcycles, 939 Romford Road, Manor Park, London E.12, England.

An anomaly of the Russian motorcycle scene is that in spite of a large motorcycle industry, and also the wonderful acceptance of motorcycle sport by the general public, Russia now remains one of the few countries which does not admit motorcycle tourists from the West! On many occasions I have tried to overcome this barrier and see the USSR from the seat of my much travelled Triumph Thunderbird, but with always the same disappointing result.

Many reasons have been given for this refusal though the basis of its content would appear to be an old out-of-date rule going back several years made by Intourist (the Soviet Government body dealing with travel in the USSR). We can only hope that, in the not too distant future, this ruling will be relaxed and we can enjoy this interesting country on a motorcycle. I would like to suggest that anyone interested in taking a motorcycle to Russia should write to the following people suggesting that a permit be granted to allow motorcycle travel in the USSR: The Director of Motor Tourism, Intourist, 16, Karl Marx Prospect, Moscow, USSR; Mr. Ipatenko, president, USSR Central Automotor Club, Osoviahi-mawskij KW 18, Tushino, Moscow, USSR; and The Chief Editor, Hlypiau Typuct, Tourist Magazine, Kirova Street 13, Moscow, USSR.



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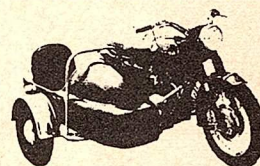
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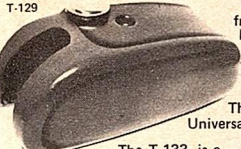
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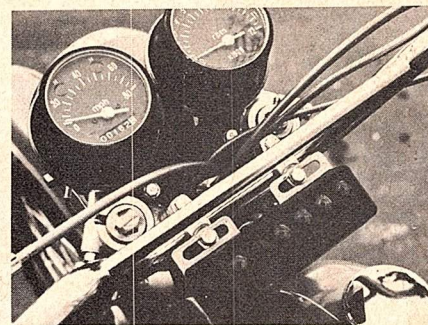
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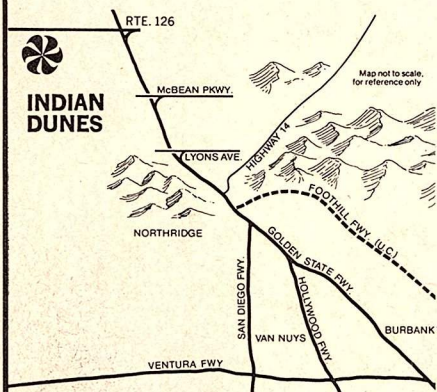
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gas/oil mixture from the fuel tank. A 27mm IRZ concentric carburetor feeds the short stroke engine that is rated at a mild 17 horsepower. As is normal with racing engines, if you want to add to the top you have to take something from the bottom. With a trials engine you have to put it on the bottom so the top suffers. Mild port and ignition timing in conjunction with heavy flywheels is one of the secrets to what makes a trials bike work. The Ossa has all of these plus a close ratio gearbox within the first three gears and a long step to 4th and another one to 5th. In Europe many trials sections are ridden in 2nd and sometimes 3rd utilizing a slower reaction and more momentum. The two overdrives are for getting from one section to another on the unobserved parts of the course.

We did find a fault with this bike however. (Although it's not really the bike's fault.) Ossa ace Bob Nickelsen positioned the shift lever one notch higher than where it should be, but this is where he likes it for his own use. If the kickstarter lever goes all the way down it will engage the engine in first gear. If the bike fires up (and it usually does), the bike will be going before you know it. This should make for some pretty comical antics before a crowd of spectators, and you.

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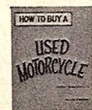
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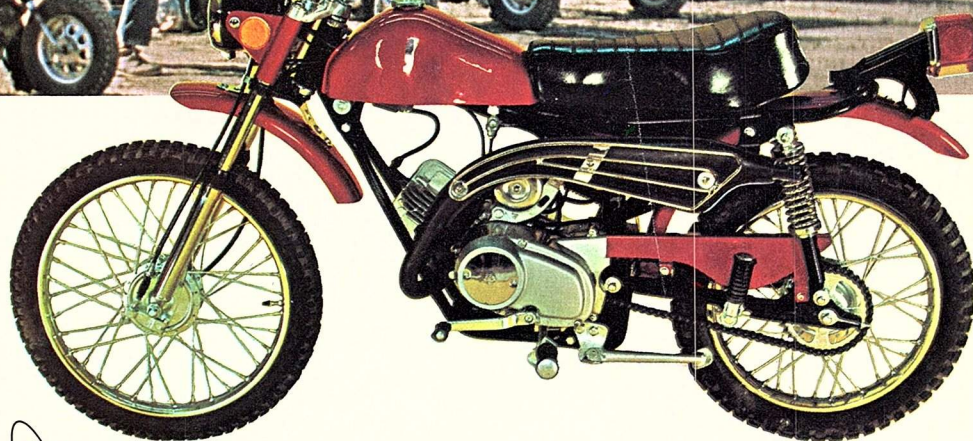
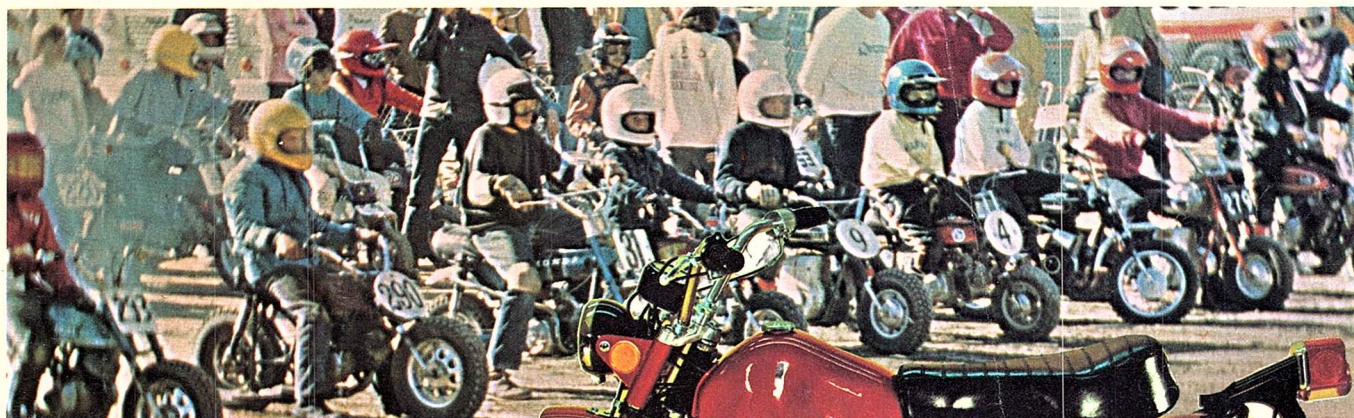


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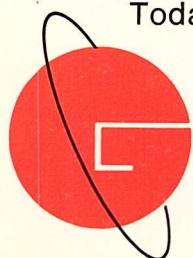


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